# PetroPlot, a plotting and data management tool set for Microsoft Excel

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PetroPlot runs on both PC and Mac, with Excel 97 (Office 97) or higher.


Comments & suggestions are welcome. (contact us)

# PetroPlot Tutorial

*(The development of the PetroPlot tutorial package is inspired by Professor Dennis Geist, professor Bill White, and Professor David Christie)*

- PetroPlot files (Explains PetroPlot files and their functionality)
- PetroPlot startup (How to install PetroPlot and how to get the menu bar)

- The "Muiti-XY Plots" function
- The "ChangeXY" function
- The "Add Data Label (XY Chart)" function
- The "Spider Diagram" function
- The "Label Log Scale" function

- The "Clear Values" function
- The "Correl Matrix" function
- The "Multiple Average" function
- The "Delete Sample" function
- The "Grouping" function
- The "Compile Rows" function

- use "Cubic Spline Interpolation functions"

- The imported "Bovey Data Labeler" tools
    - The "Add Chart Labels" function
    - The "Move Chart Labels" function
    - The "Manual Labeler" function

- PetroPlot known problems
    - Install PetroPlot.xla on Macintosh
    - Use numbers as legend for spidergrams
    - Empty cells when using "Multi-XY Plots"
    - Chart type is not XY Scatter
    - A chart contains data from multiple files or sheets

- PetroPlot conventions

- Using Visual Basic Editor in Excel

# PetroPlot FAQ

***Excel questions***

- Q: How to move a chart from embeded object inside a worksheet into a seperate chart sheet?
  A: Click Excel menu: Chart --> Location

- Q: Most people, including myself, would like multiple panels in a single figure when preparing publications. Can you make XY plots with fixed PLOT area (vs. fixed CHART area)?
  A: We have tried a variety of ways, but couldn't get a fixed Plot area. We'll continue to investigate the possibility. If you know any infomation about it, please contact us.

- Q: When making log scale XY plots, the default minimum and maximum values on axes are fixed to 10's and 10th – i.e., 0.001, 0.01, 0.1, 1, 10, 100, 1000 etc. ? Is it possible that maximum and minimum on an axis can be of any values, say, 0.2, 0.6, 20, 40, 200 etc?
  A: We couldn't get flexible scales on a real log scale axis.
  However, we manage to label a linear-axis using log scale. Please try our "Label Log Scale" function

***PetroPlot Specifics***

- Q: I made an XY chart, why did PetroPlot tell me it's not an XY Scatter?
  A: Mostly likely you added some lines to connect the points. Read more...

- Q: PetroPlot used to have "Remove Data Label" function, why is that gone? How do I remove labels?
  A: To remove labels for a series in a chart, simply select the labels, and hit the "Delete" button on you keyboard.
  Since it's an easy operation, we deleted the "Remove Data Label" function.

- Q: I have always found it useful to leave the first 2 lines of each spreadsheet for titles and information about the contents. I encourage the authors to consider a modification to this effect.
  A: Though the examples we provided put header on the first line, and data start from the second line, PetroPlot doesn't reserve the second line for data. You can certainly put more info lines on the top of a worksheet. PetroPlot does reserve the **first line** to be column header

  Q: Even more useful would be giving the user the option of specifying which line contains the column headings.
  A: We consider this as a good suggestion, and will implement it in the next generation of

PetroPlot software.

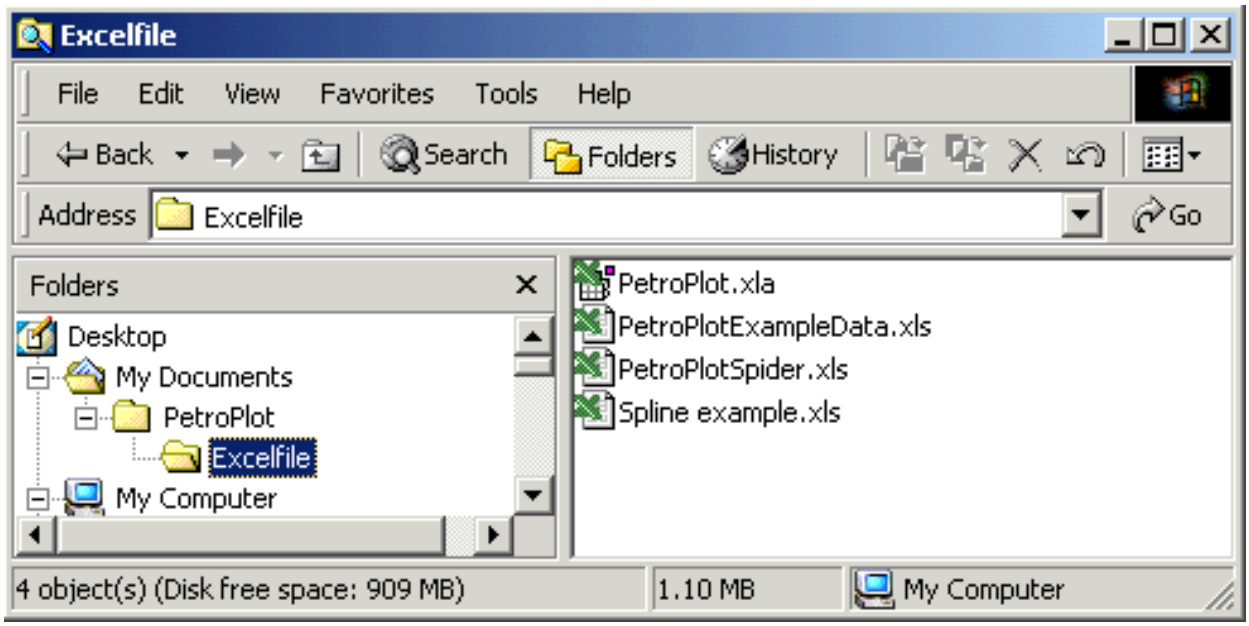
- Q: The biggest change that I would like to see concerns the “Change XY” routine. At present, this routine works for only one plot at a time. It would be really useful to combine the rapid multi-plot functionality of “Multi XY Plots” with the ability to use a template to specify the symbols used.
  A: Excellent idea. We'll consider it for PetroPlot2.0.

*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot tutorial homepage**

# PetroPlot Tutorial

# Directories and files

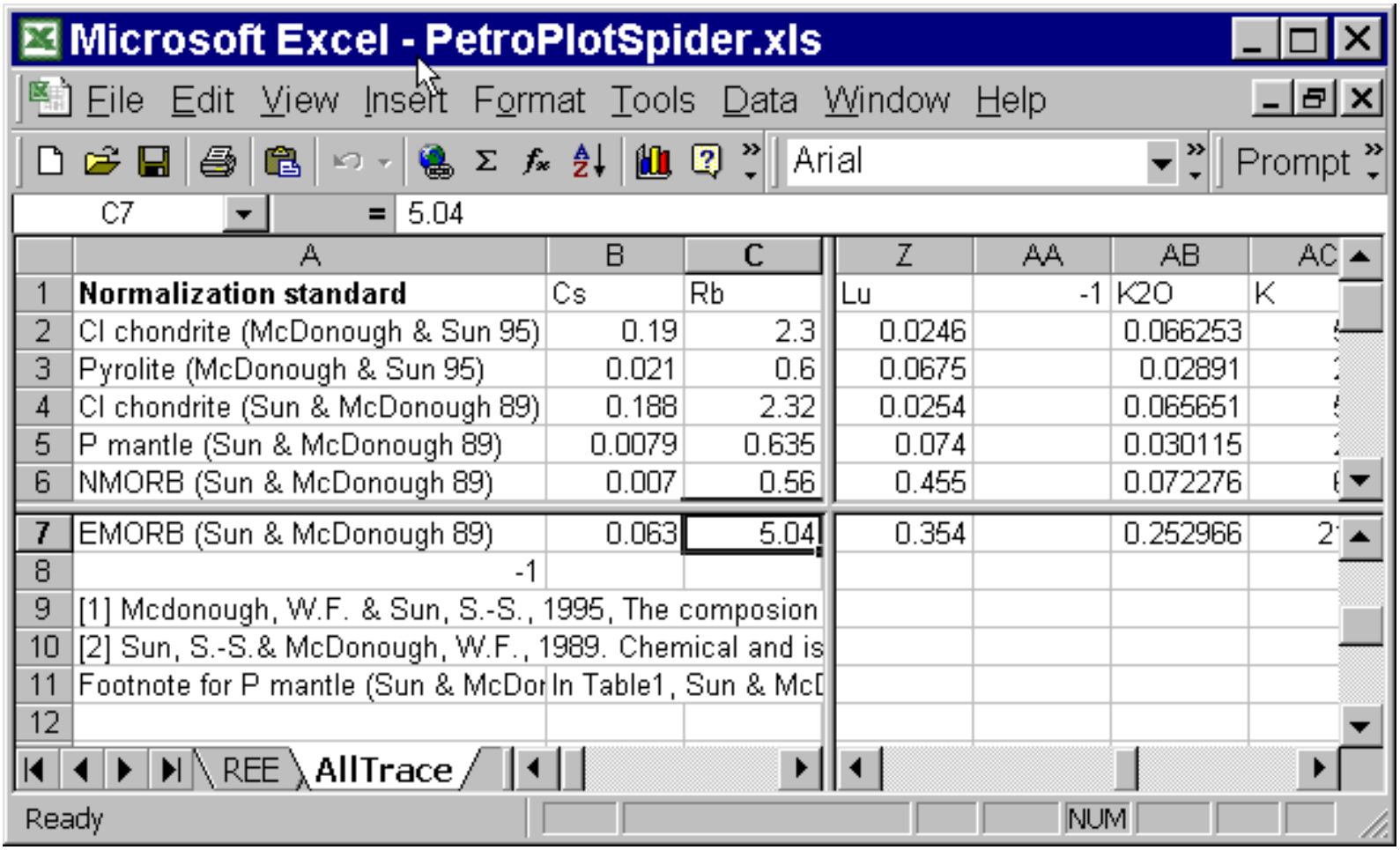
The folder **Excelfile** contains four files: PetroPlot.xla, PetroPlotSpider.xls, PetroPlotExampleData.xls, spline example.xls.




***PetroPlot.xla***
As the core Excel add-in library file, "PetroPlot.xla" is required for all PetroPlot functions. Similar to other Excel add-in libraries, this file runs in the background in Excel. The source codes can be viewed in Visual Basic Editor. (How?)

***PetroPlotSpider.xls*** (Note: the name of this file should not be modified.)
This file contains normalization standard values for spider diagrams. Required for the PetroPlot Spider Diagram function.

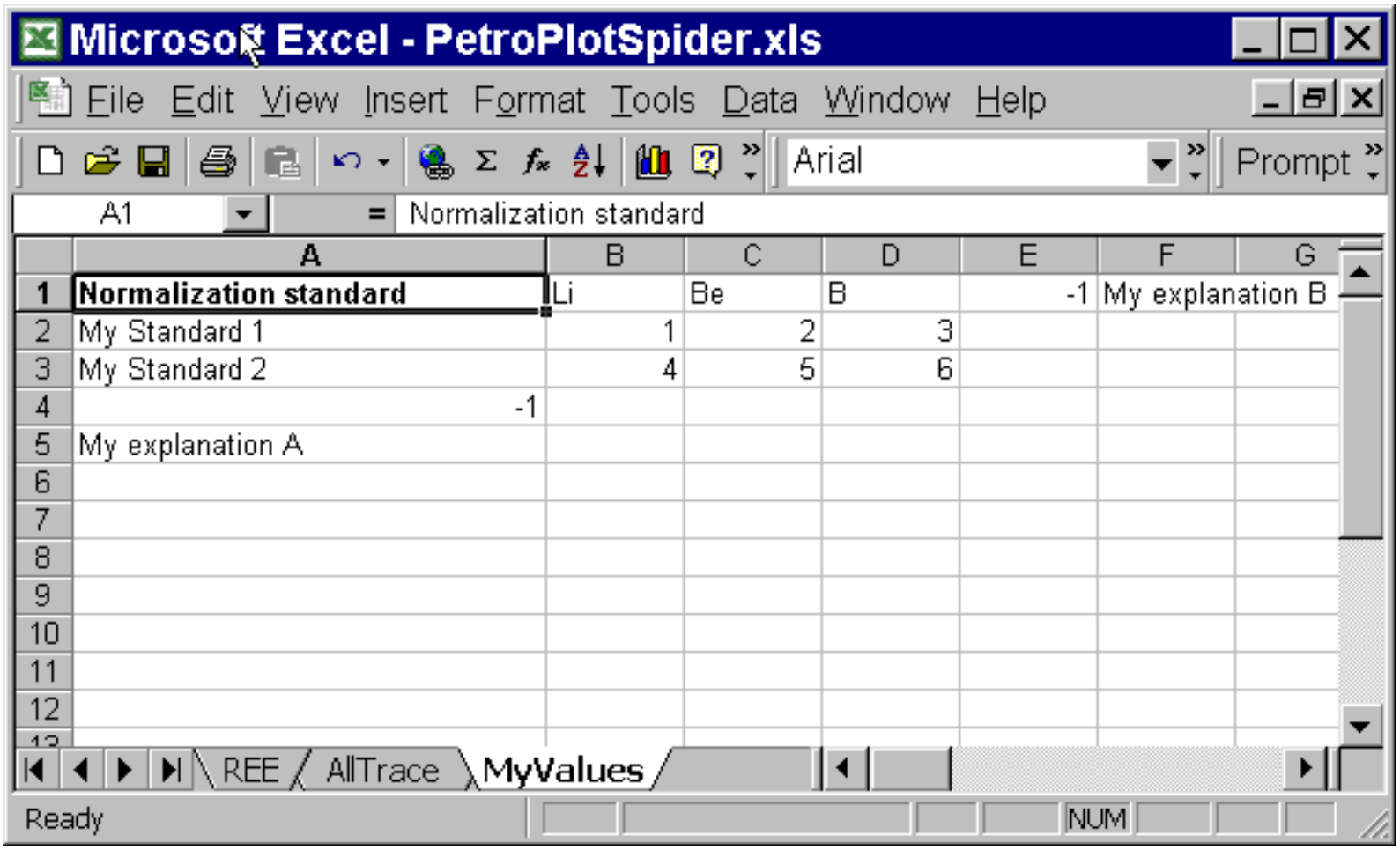
It is provided with three worksheets: REE, AllTrace and MyValues.
The REE and AllTrace worksheets contain chondrite, primitive mantle and average MORB values from Sun & McDonough (1989) and McDonough & Sun (1995).




| | A | B | C | Z | AA | AB | AC |
|---|---|---|---|---|---|---|---|
| 1 | **Normalization standard** | Cs | Rb | Lu | -1 | K2O | K |
| 2 | CI chondrite (McDonough & Sun 95) | 0.19 | 2.3 | 0.0246 | | 0.066253 | |
| 3 | Pyrolite (McDonough & Sun 95) | 0.021 | 0.6 | 0.0675 | | 0.02891 | |
| 4 | CI chondrite (Sun & McDonough 89) | 0.188 | 2.32 | 0.0254 | | 0.065651 | |
| 5 | P mantle (Sun & McDonough 89) | 0.0079 | 0.635 | 0.074 | | 0.030115 | |
| 6 | NMORB (Sun & McDonough 89) | 0.007 | 0.56 | 0.455 | | 0.072276 | |
| 7 | EMORB (Sun & McDonough 89) | 0.063 | 5.04 | 0.354 | | 0.252966 | |
| 8 | -1 | | | | | | |
| 9 | [1] Mcdonough, W.F. & Sun, S.-S., 1995, The composion | | | | | | |
| 10 | [2] Sun, S.-S.& McDonough, W.F., 1989. Chemical and is | | | | | | |
| 11 | Footnote for P mantle (Sun & McDor | In Table1, Sun & McI | | | | | |
| 12 | | | | | | | |



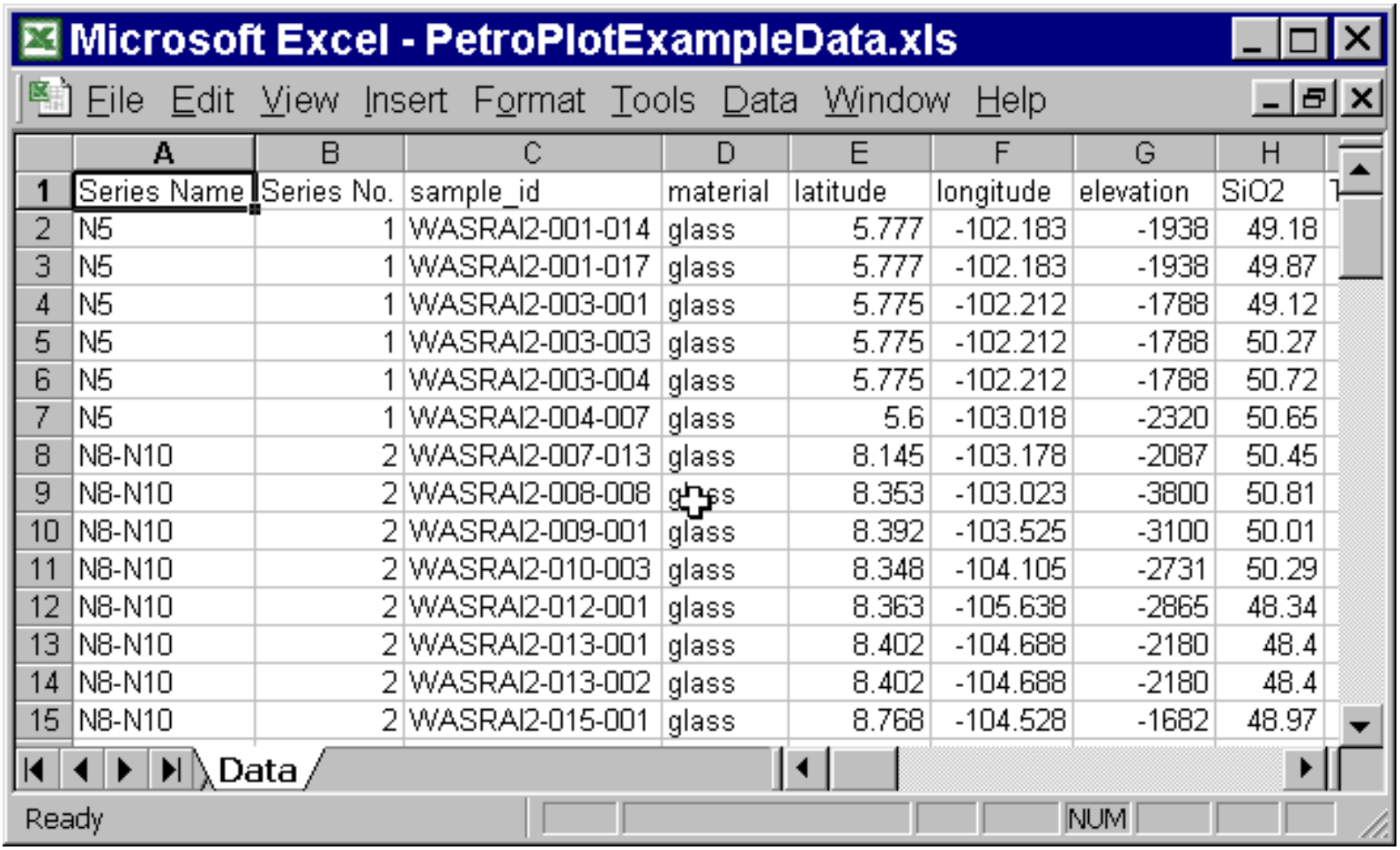
The MyValues worksheet is a demo showing how a customized worksheet could be added to the PetroPlotSpider.xls file.




All worksheets in ***PetroPlotSpider.xls*** obey 3 rules :
(1) Each row represents a normalization standard; each column contains values for one element.
(2) Standard names must be in Column A, and element names must be in Row 1.
(3) "-1" is required as termination value in both Column A and Row 1. Extra information beyond the "-1" signs will not be used for spider diagram plotting.

Users may add an arbitrary number of worksheets. Inside each worksheet (including the provided AllTrace and REE), arbitrary numbers of standards or elements can also be added. The order of elements can be changed, and the data values can be modified. In another words, the spider diagram normalization values can be fully customized.

***PetroPlotExampleData.xls***
An Excel file with petrology data for the demonstration purpose ONLY.
Data source is Niu and Batiza (1997).


Microsoft Excel - PetroPlotExampleData.xls

File Edit View Insert Format Tools Data Window Help

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | Series Name | Series No. | sample_id | material | latitude | longitude | elevation | SiO2 |
| 2 | N5 | 1 | WASRAI2-001-014 | glass | 5.777 | -102.183 | -1938 | 49.18 |
| 3 | N5 | 1 | WASRAI2-001-017 | glass | 5.777 | -102.183 | -1938 | 49.87 |
| 4 | N5 | 1 | WASRAI2-003-001 | glass | 5.775 | -102.212 | -1788 | 49.12 |
| 5 | N5 | 1 | WASRAI2-003-003 | glass | 5.775 | -102.212 | -1788 | 50.27 |
| 6 | N5 | 1 | WASRAI2-003-004 | glass | 5.775 | -102.212 | -1788 | 50.72 |
| 7 | N5 | 1 | WASRAI2-004-007 | glass | 5.6 | -103.018 | -2320 | 50.65 |
| 8 | N8-N10 | 2 | WASRAI2-007-013 | glass | 8.145 | -103.178 | -2087 | 50.45 |
| 9 | N8-N10 | 2 | WASRAI2-008-008 | glass | 8.353 | -103.023 | -3800 | 50.81 |
| 10 | N8-N10 | 2 | WASRAI2-009-001 | glass | 8.392 | -103.525 | -3100 | 50.01 |
| 11 | N8-N10 | 2 | WASRAI2-010-003 | glass | 8.348 | -104.105 | -2731 | 50.29 |
| 12 | N8-N10 | 2 | WASRAI2-012-001 | glass | 8.363 | -105.638 | -2865 | 48.34 |
| 13 | N8-N10 | 2 | WASRAI2-013-001 | glass | 8.402 | -104.688 | -2180 | 48.4 |
| 14 | N8-N10 | 2 | WASRAI2-013-002 | glass | 8.402 | -104.688 | -2180 | 48.4 |
| 15 | N8-N10 | 2 | WASRAI2-015-001 | glass | 8.768 | -104.528 | -1682 | 48.97 |

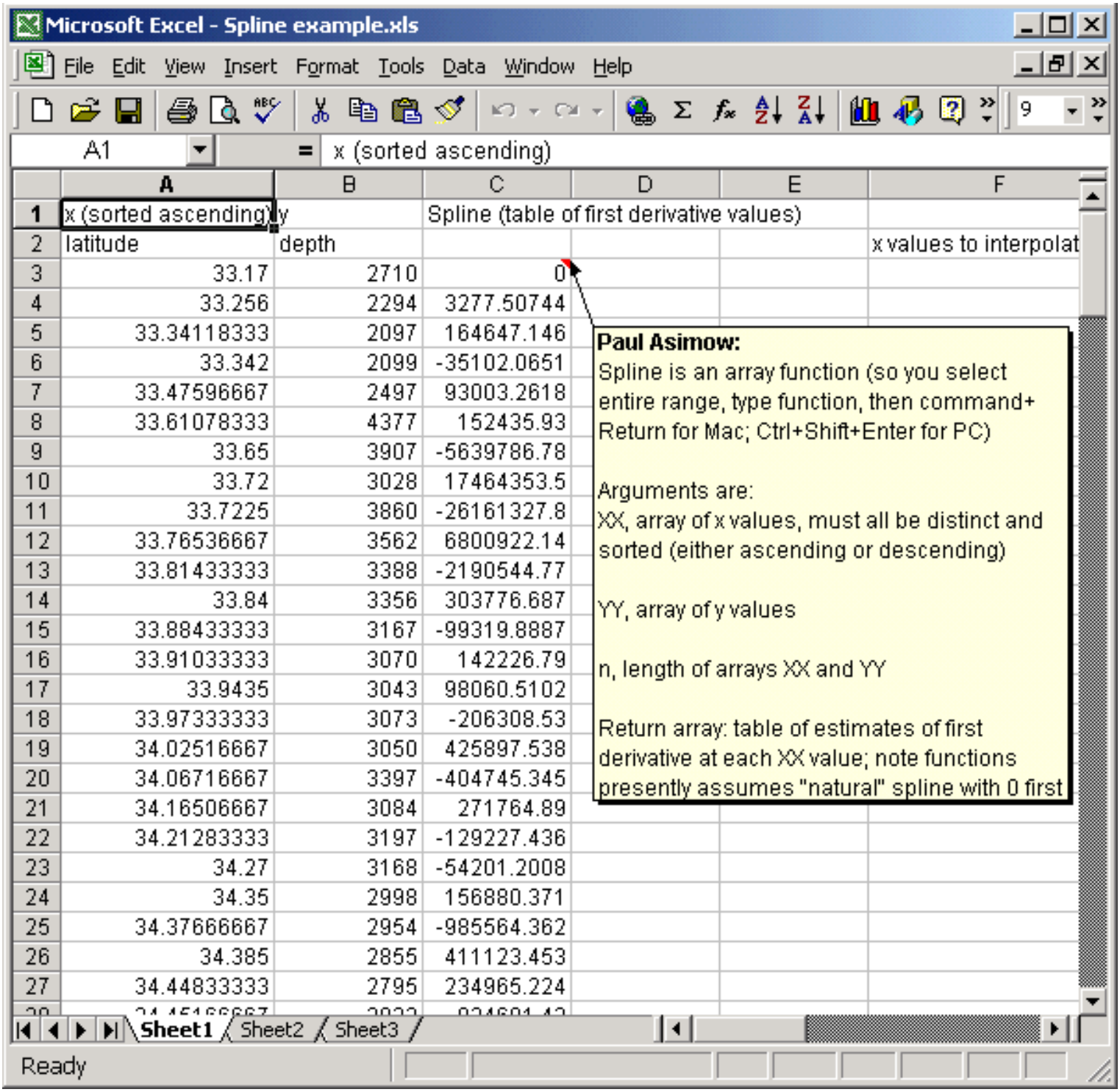
Data

Ready NUM

The format of an ordinary file should follow the format of this example file.
For instance, in a data sheet, each row represents a sample/analysis; each column represents a category (location, element, element ratio, etc) and the first row is always reserved for headers (i.e. element names etc).

However, unlike the PetroPlotSpider.xls, it is not required to put sample names in Column A.
Data can begin on any row below row 1.

***spline example.xls***
An Excel file for the demonstration of the spline functions.




| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | x (sorted ascending) | y | Spline (table of first derivative values) | | | |
| 2 | latitude | depth | | | | x values to interpolat |
| 3 | 33.17 | 2710 | 0 | | | |
| 4 | 33.256 | 2294 | 3277.50744 | | | |
| 5 | 33.34118333 | 2097 | 164647.146 | | | |
| 6 | 33.342 | 2099 | -35102.0651 | | | |
| 7 | 33.47596667 | 2497 | 93003.2618 | | | |
| 8 | 33.61078333 | 4377 | 152435.93 | | | |
| 9 | 33.65 | 3907 | -5639786.78 | | | |
| 10 | 33.72 | 3028 | 17464353.5 | | | |
| 11 | 33.7225 | 3860 | -26161327.8 | | | |
| 12 | 33.76536667 | 3562 | 6800922.14 | | | |
| 13 | 33.81433333 | 3388 | -2190544.77 | | | |
| 14 | 33.84 | 3356 | 303776.687 | | | |
| 15 | 33.88433333 | 3167 | -99319.8887 | | | |
| 16 | 33.91033333 | 3070 | 142226.79 | | | |
| 17 | 33.9435 | 3043 | 98060.5102 | | | |
| 18 | 33.97333333 | 3073 | -206308.53 | | | |
| 19 | 34.02516667 | 3050 | 425897.538 | | | |
| 20 | 34.06716667 | 3397 | -404745.345 | | | |
| 21 | 34.16506667 | 3084 | 271764.89 | | | |
| 22 | 34.21283333 | 3197 | -129227.436 | | | |
| 23 | 34.27 | 3168 | -54201.2008 | | | |
| 24 | 34.35 | 2998 | 156880.371 | | | |
| 25 | 34.37666667 | 2954 | -985564.362 | | | |
| 26 | 34.385 | 2855 | 411123.453 | | | |
| 27 | 34.44833333 | 2795 | 234965.224 | | | |

*Last modified 05/30/2002, Yong Jun Su*

This line marks the end of **PetroPlot Tutorial: Directories and files**

# PetroPlot Tutorial

# Installation

**System Requirements**
Any system that runs Microsoft Excel 97 (Office 97) or higher.

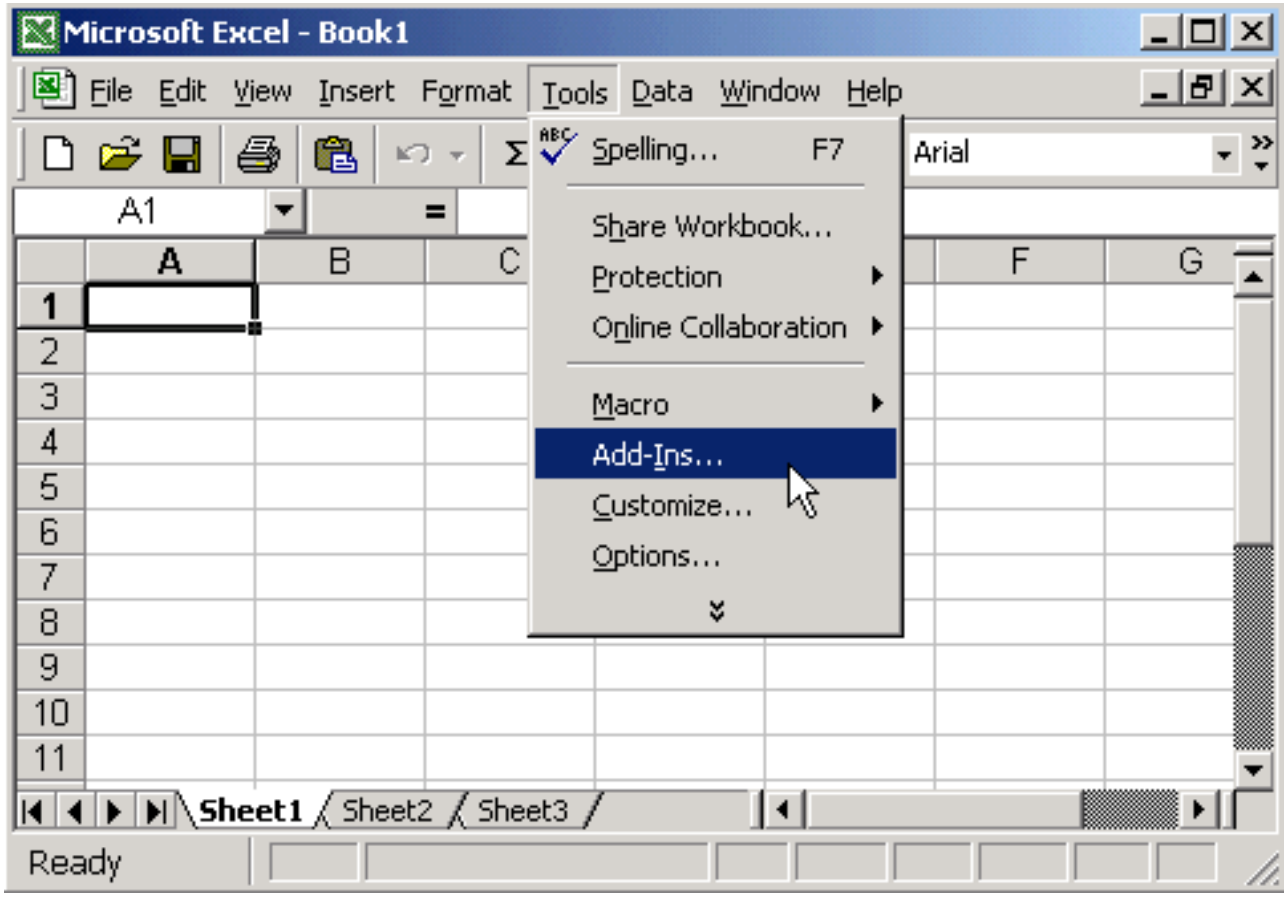
**Open PetroPlot library:**
There are two ways to open the PetroPlot.xla library:
1) Manually open the file;
2) Install it once, then it will automatically open each time Excel starts.

***1) Manually open***
You can directly open the "PetroPlot.xla" in Excel, and remember to "Enable Macros".

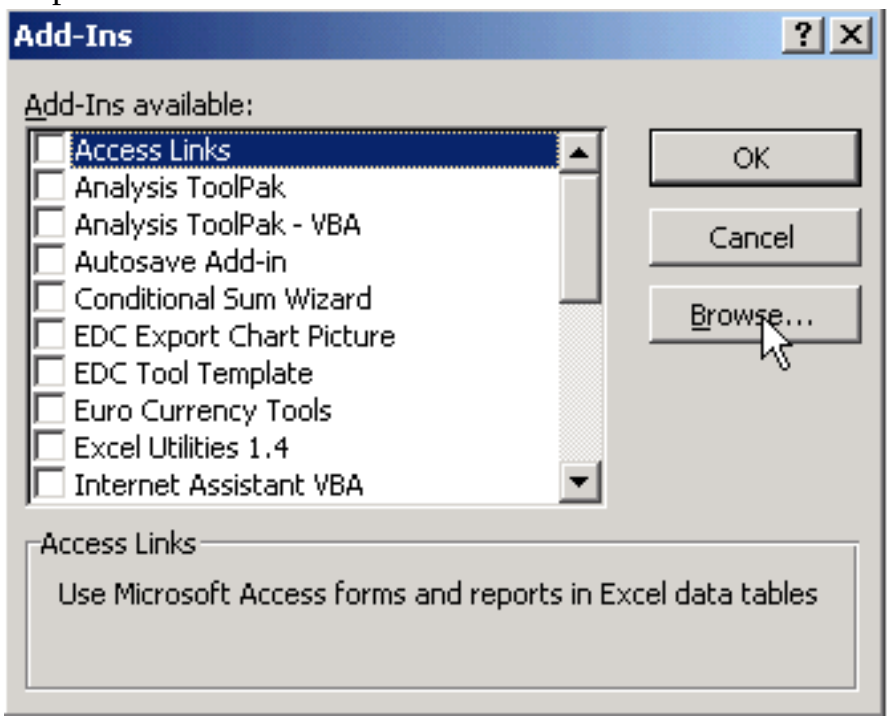

***2) Install "Add-ins"***
To avoid manually opening this file each time you wants to use it, you can install it through "Add-ins"

(*Known problem for Mac: On some old MAC OS, the installation of PetroPlot Add-In may cause Excel to take a long time to start. If that happens, is it suggested you manually open the PetroPlot.xla instead of installing the Add-In.*)

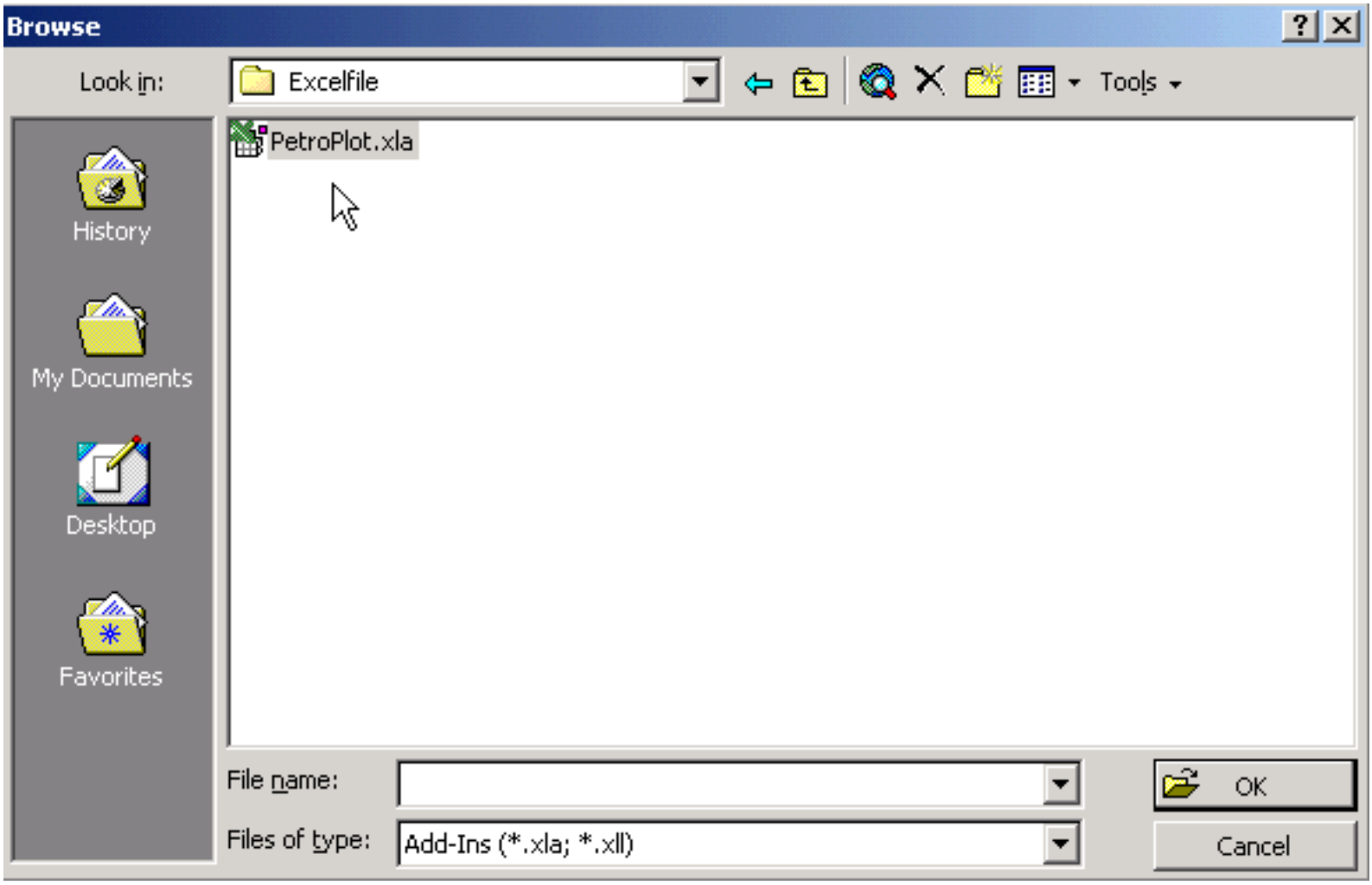
Step 1. In Microsoft Excel, open "Tools" menu bar, click "Add-Ins" button



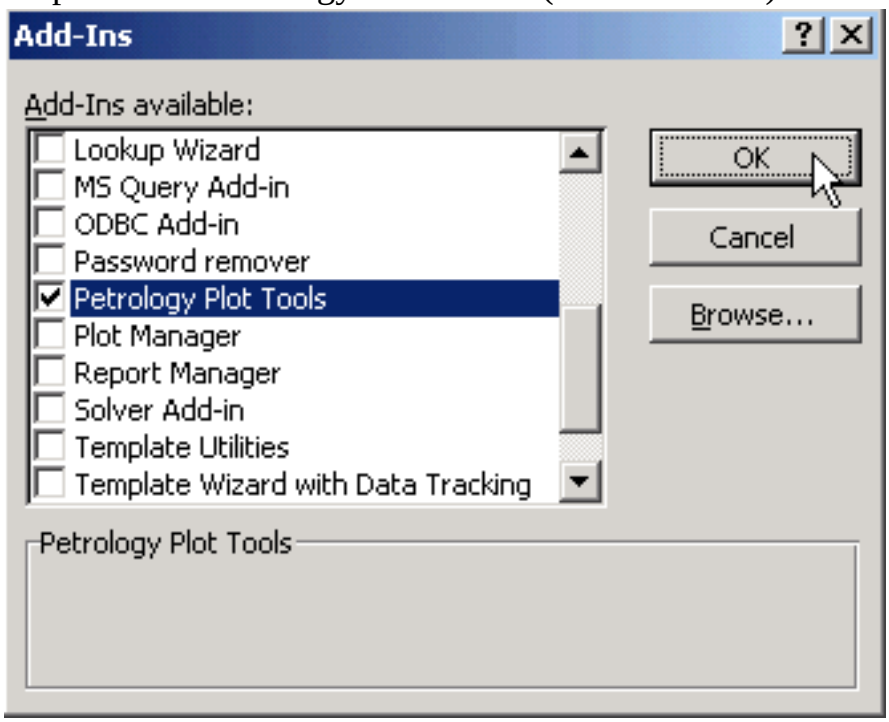

Step 2. click the “Browse” button to locate the PetroPlot.xla file.




Select the PetroPlot.xla



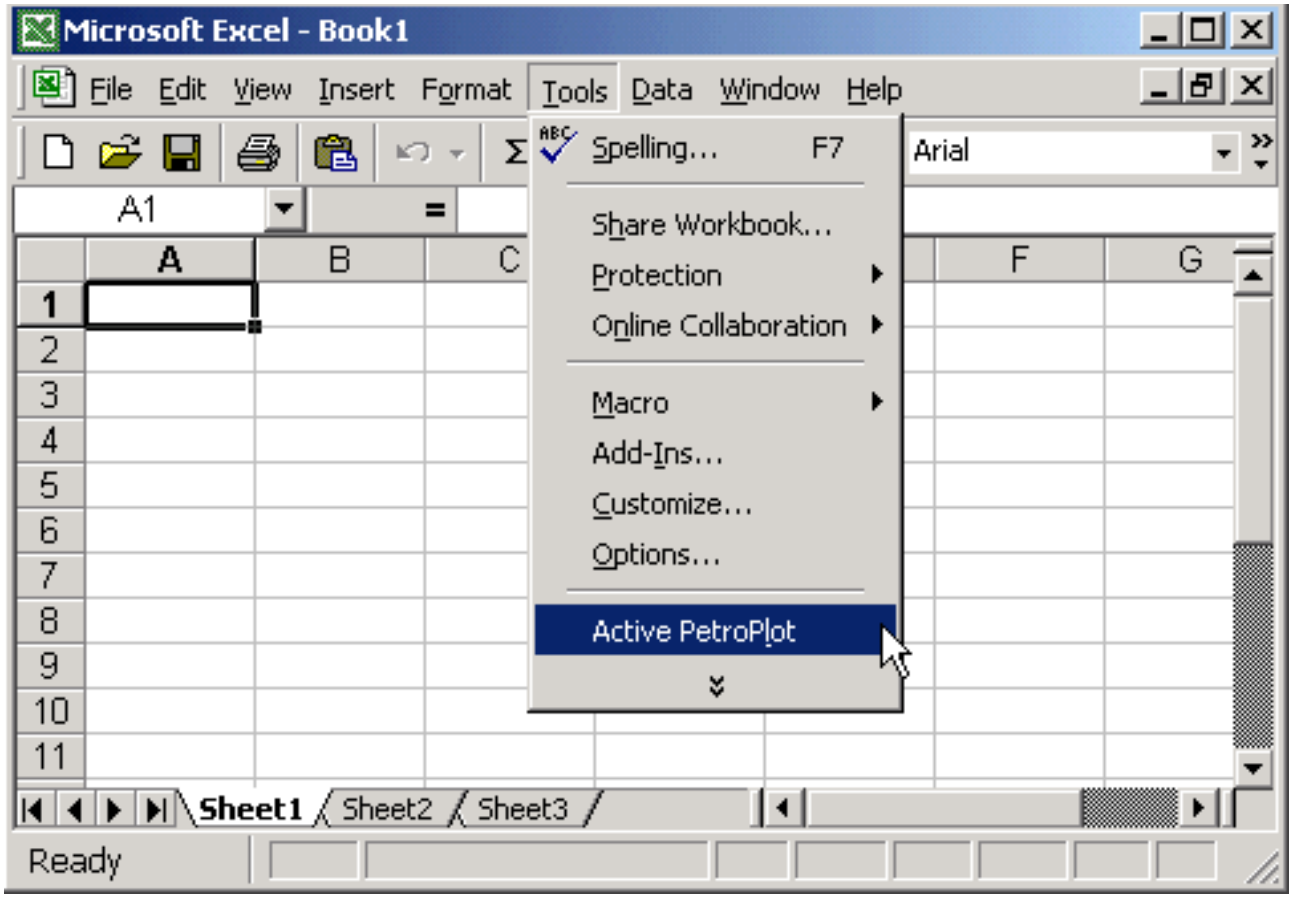

Step 3. Find "Petrology Plot Tools" (or “PetroPlot”) and select it. Click the "OK" button.



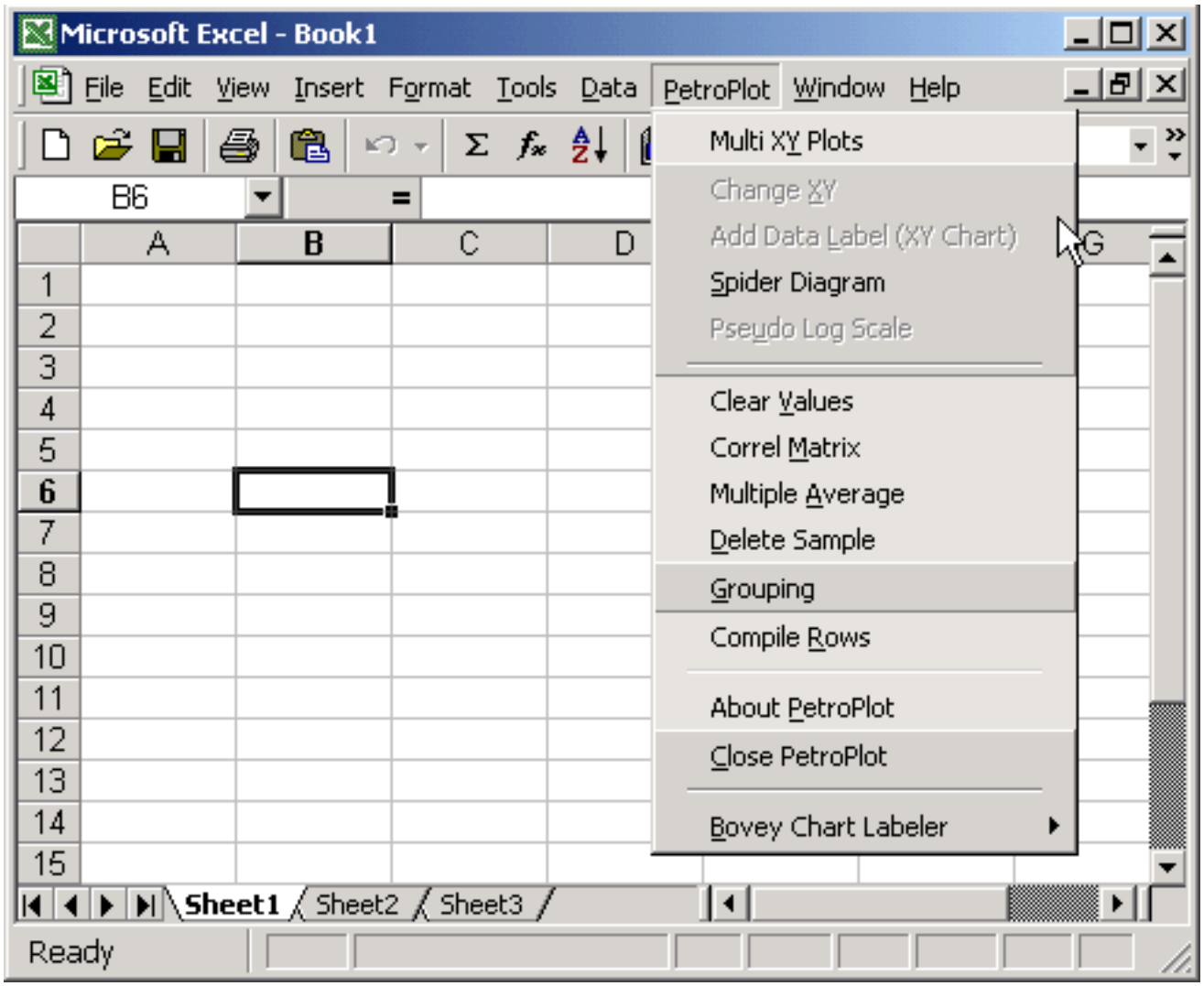
**Active PetroPlot library:**

Now under "Tools" menu bar, there should be a button called "Active PetroPlot"

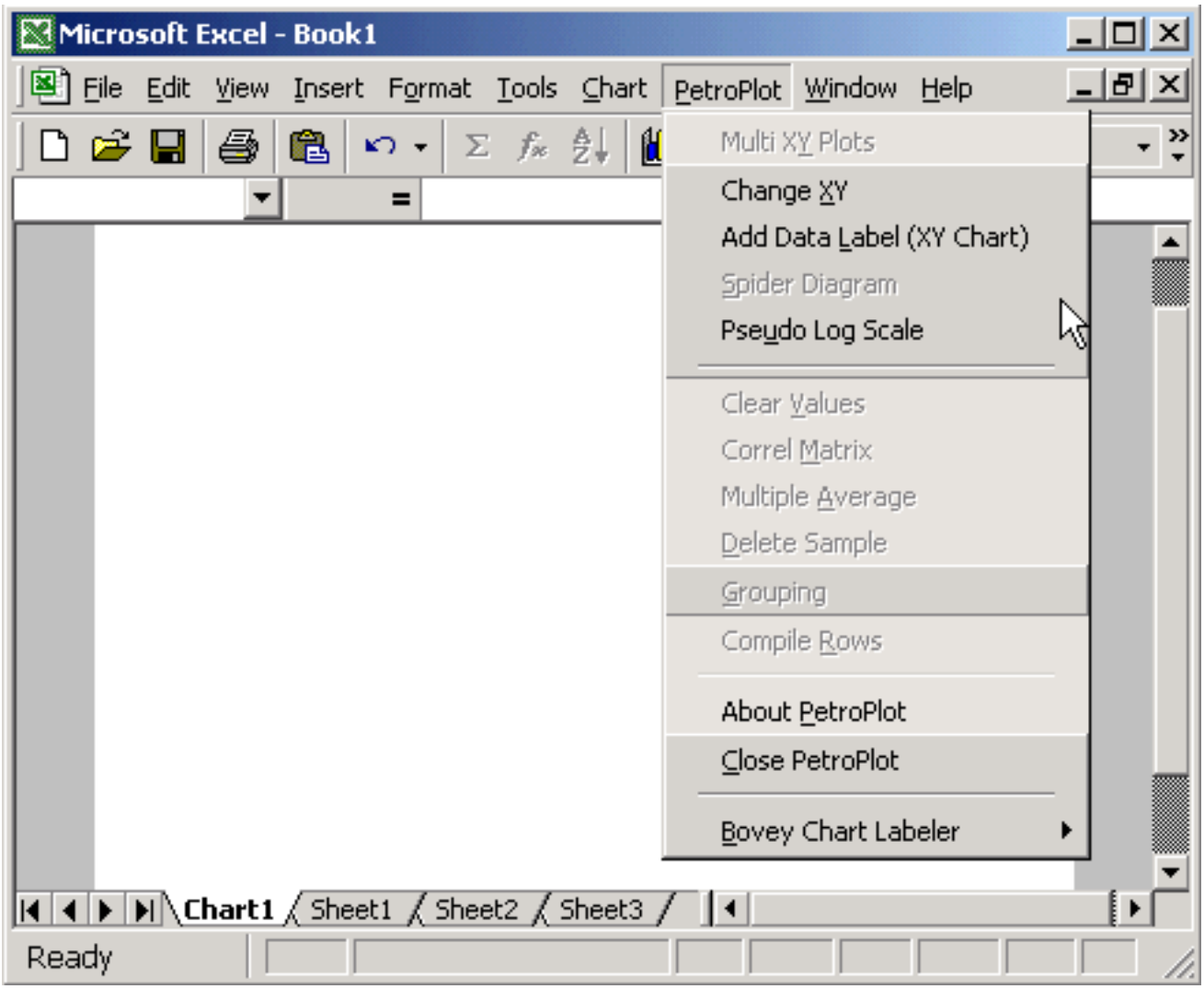
Click “Active PetroPlot" to activate “PetroPlot” Menu bar.




Here is an example of PetroPlot menus in sheet mode

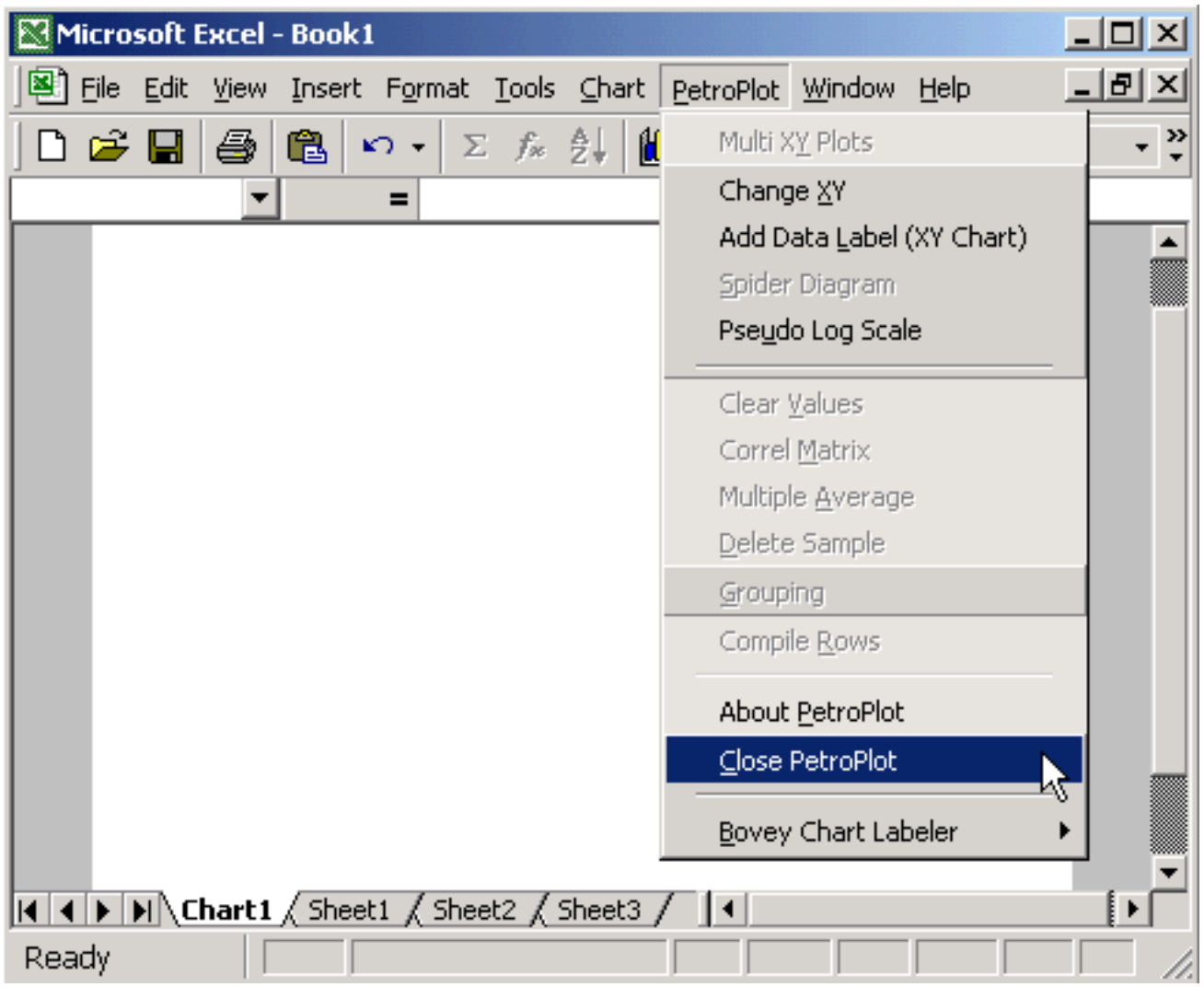



Here is an example of PetroPlot menus in chart mode



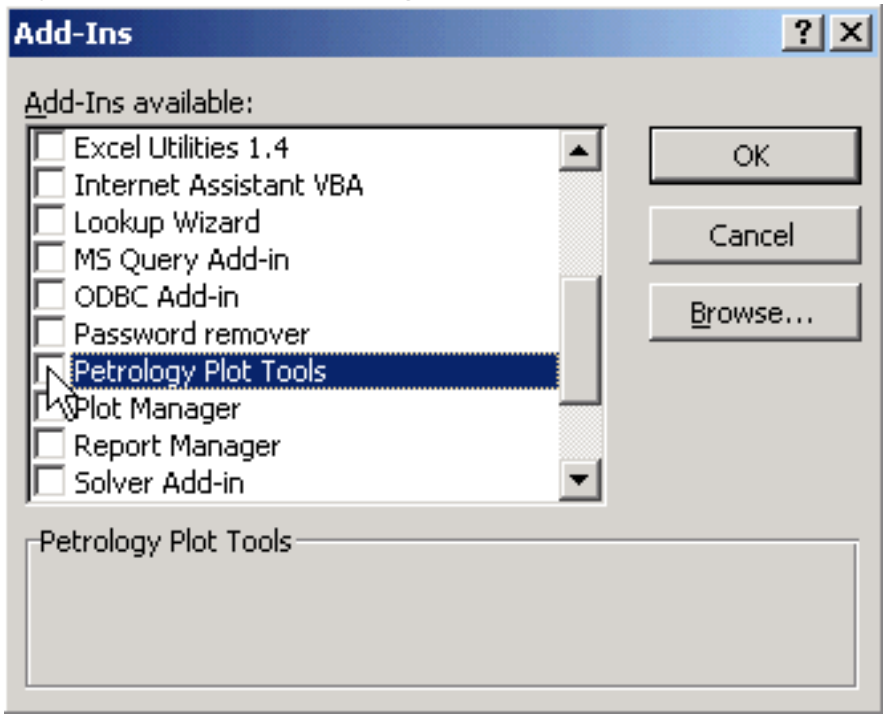

**Close and uninstall PetroPlot**

You can hide the “PetroPlot” menu by clicking the “Close PetroPlot” button.




Notice that the PetroPlot library is still open.

If you want to uninstall it, go to "Tools" --> "Add-Ins...", then deselect the "Petrology Plot Tools" option.



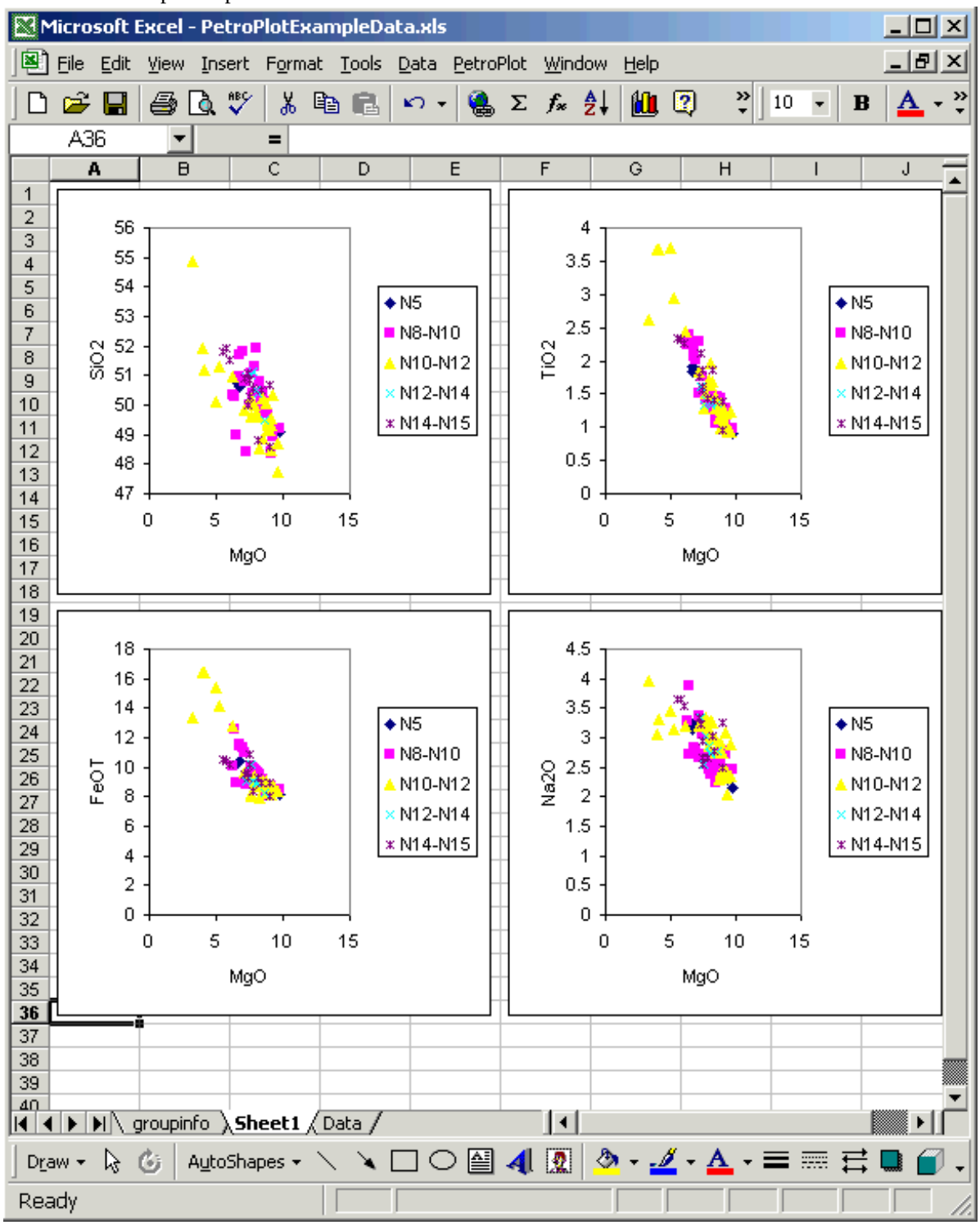
*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Tutorial: Installation**

# PetroPlot Tutorial

# Multi-XY function

**Purpose:**
The PetroPlot multi-plot function makes a large number of XY plots at one time.
Each plot allows multiple groups of samples to be plotted using discrete symbols.

Here is an example output of this function.



**Start:**
Open "PetroPlotExampleData.xls" in Excel.
Activate the "data" sheet.

Microsoft Excel - PetroPlotExampleData.xls

File Edit View Insert Format Tools Data Window Help

Arial 8

A1 = Series Name

| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Series Name | Series No. | sample_id | material | latitude | longitude | elevation | SiO2 | TiO2 | Al2O3 | FeOT |
| 2 | N5 | 1 | WASRAI2-001-014 | glass | 5.777 | -102.183 | -1938 | 49.18 | 1.01 | 16.42 | |
| 3 | N5 | 1 | WASRAI2-001-017 | glass | 5.777 | -102.183 | -1938 | 49.87 | 1.2 | 15.38 | |
| 4 | N5 | 1 | WASRAI2-003-001 | glass | 5.775 | -102.212 | -1788 | 49.12 | 0.91 | 16.68 | |
| 5 | N5 | 1 | WASRAI2-003-003 | glass | 5.775 | -102.212 | -1788 | 50.27 | 1.35 | 15.1 | |
| 6 | N5 | 1 | WASRAI2-003-004 | glass | 5.775 | -102.212 | -1788 | 50.72 | 1.92 | 14.89 | |
| 7 | N5 | 1 | WASRAI2-004-007 | glass | 5.6 | -103.018 | -2320 | 50.65 | 1.84 | 14.72 | |
| 8 | N8-N10 | 2 | WASRAI2-007-013 | glass | 8.145 | -103.178 | -2087 | 50.45 | 1.05 | 14.96 | |
| 9 | N8-N10 | 2 | WASRAI2-008-008 | glass | 8.353 | -103.023 | -3800 | 50.81 | 1.51 | 14.18 | |
| 10 | N8-N10 | 2 | WASRAI2-009-001 | glass | 8.392 | -103.525 | -3100 | 50.01 | 1.48 | 15.22 | |
| 11 | N8-N10 | 2 | WASRAI2-010-003 | glass | 8.348 | -104.105 | -2731 | 50.29 | 2.28 | 13.66 | |
| 12 | N8-N10 | 2 | WASRAI2-012-001 | glass | 8.363 | -105.638 | -2865 | 48.34 | 1.27 | 17.18 | |
| 13 | N8-N10 | 2 | WASRAI2-013-001 | glass | 8.402 | -104.688 | -2180 | 48.4 | 2.28 | 16.88 | |
| 14 | N8-N10 | 2 | WASRAI2-013-002 | glass | 8.402 | -104.688 | -2180 | 48.4 | 1.29 | 17.16 | |
| 15 | N8-N10 | 2 | WASRAI2-015-001 | glass | 8.768 | -104.528 | -1682 | 48.97 | 2.38 | 18.1 | |
| 16 | N8-N10 | 2 | WASRAI2-016-001 | glass | 8.843 | -104.56 | -2985 | 50.39 | 1.58 | 14.83 | |
| 17 | N8-N10 | 2 | WASRAI2-016-002 | glass | 8.843 | -104.56 | -2985 | 50.12 | 1.08 | 16.05 | |
| 18 | N8-N10 | 2 | WASRAI2-017-001 | glass | 8.912 | -104.565 | -2720 | 50.33 | 2.23 | 15.08 | |
| 19 | N8-N10 | 2 | WASRAI2-018-003 | glass | 8.935 | -104.457 | -2720 | 49.99 | 1.76 | 15.84 | |
| 20 | N8-N10 | 2 | WASRAI2-019-004 | glass | 8.933 | -104.405 | -2375 | 49.75 | 1.09 | 16.07 | |
| 21 | N8-N10 | 2 | WASRAI2-020-002 | glass | 8.995 | -104.373 | -2985 | 51.28 | 1.5 | 14.73 | |
| 22 | N8-N10 | 2 | WASRAI2-020-003 | glass | 8.995 | -104.373 | -2985 | 51.81 | 2.01 | 14.07 | |
| 23 | N8-N10 | 2 | WASRAI2-021-006 | glass | 8.897 | -104.143 | -2711 | 50.82 | 1.42 | 15.27 | |
| 24 | N8-N10 | 2 | WASRAI2-022-001 | glass | 8.897 | -104.102 | -2761 | 51.92 | 1.33 | 14.67 | |
| 25 | N8-N10 | 2 | WASRAI2-023-002 | glass | 9.035 | -104.045 | -3025 | 49.18 | 0.98 | 17.38 | |
| 26 | N8-N10 | 2 | WASRAI2-024-001 | glass | 8.963 | -103.208 | -3140 | 51.08 | 1.4 | 14.75 | |
| 27 | N8-N10 | 2 | WASRAI2-024-005 | glass | 8.963 | -103.208 | -3140 | 51.68 | 2.07 | 13.97 | |
| 28 | N8-N10 | 2 | WASRAI2-025-001 | glass | 8.882 | -103.788 | -2220 | 50.21 | 1.26 | 15.54 | |
| 29 | N8-N10 | 2 | WASRAI2-028-003 | glass | 8.812 | -103.902 | -1984 | 50.97 | 2.16 | 13.95 | |
| 30 | N8-N10 | 2 | WASRAI2-028-007 | glass | 8.812 | -103.902 | -1984 | 49.85 | 1.15 | 15.94 | |
| 31 | N8-N10 | 2 | WASRAI2-029-006 | glass | 8.687 | -104.072 | -2726 | 49.73 | 1.44 | 16.35 | |
| 32 | N8-N10 | 2 | WASRAI2-030-030 | glass | 9.168 | -105.595 | -1892 | 48.94 | 1.08 | 16.91 | |
| 33 | N8-N10 | 2 | WASRAI2-031-001 | glass | 9.087 | -105.02 | -2345 | 49.99 | 1.18 | 15.74 | |

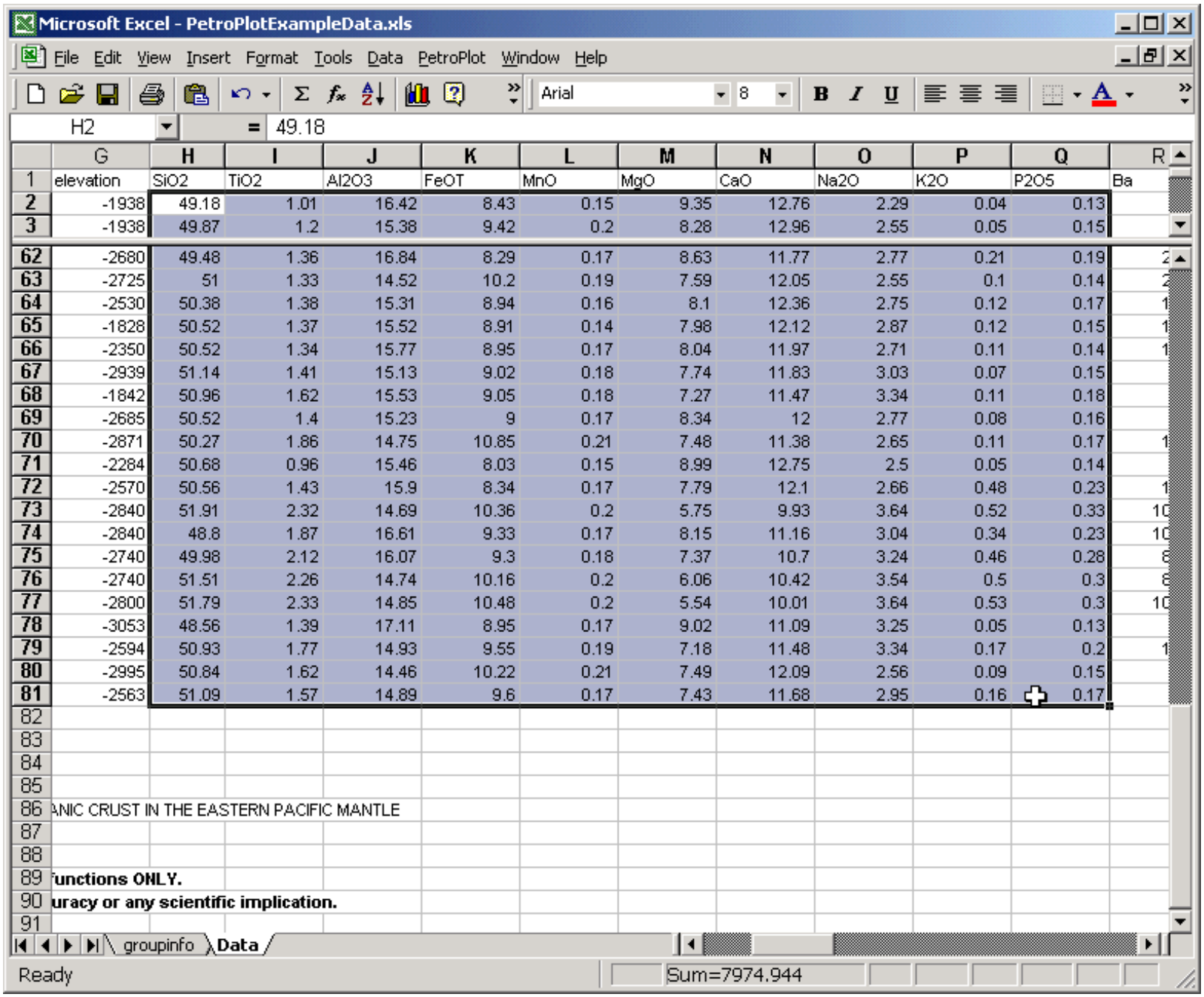
groupinfo Data

Ready

Notice: the first row of data sheet is reserved for headers (i.e. element names etc). This is **mandatory** to use PetroPlot.

In this example, Column A is reserved for series name, and column B is reserved for series number.
This setup is optional. PetroPlot does not require the column positions. However, we suggest that you use the first two columns for series name & number.

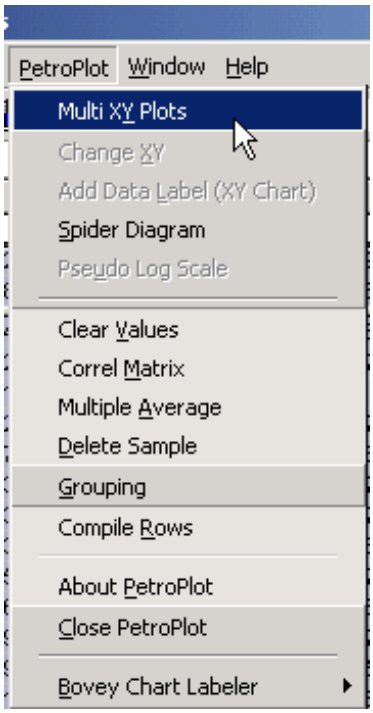
**Step 1:**
Select the data range on "data" sheet.



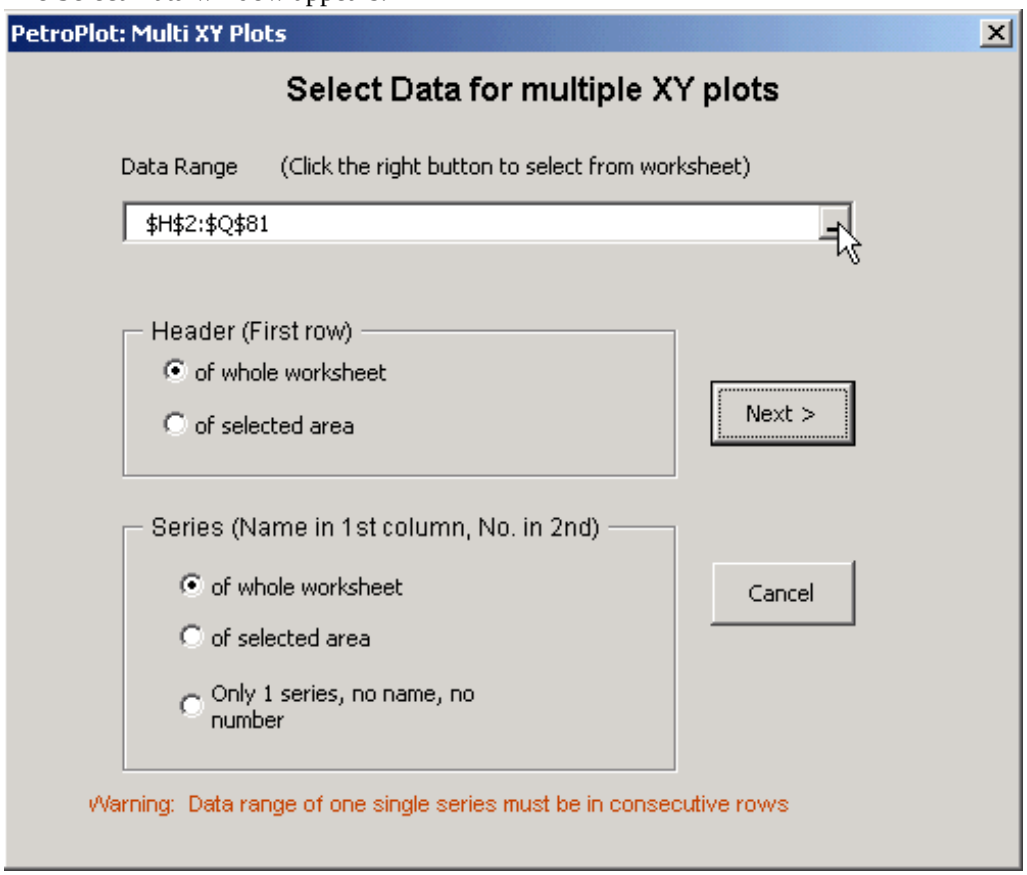

| | G | H | I | J | K | L | M | N | O | P | Q | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | elevation | SiO2 | TiO2 | Al2O3 | FeOT | MnO | MgO | CaO | Na2O | K2O | P2O5 | Ba |
| 2 | -1938 | 49.18 | 1.01 | 16.42 | 8.43 | 0.15 | 9.35 | 12.76 | 2.29 | 0.04 | 0.13 | |
| 3 | -1938 | 49.87 | 1.2 | 15.38 | 9.42 | 0.2 | 8.28 | 12.96 | 2.55 | 0.05 | 0.15 | |
| 62 | -2680 | 49.48 | 1.36 | 16.84 | 8.29 | 0.17 | 8.63 | 11.77 | 2.77 | 0.21 | 0.19 | 2 |
| 63 | -2725 | 51 | 1.33 | 14.52 | 10.2 | 0.19 | 7.59 | 12.05 | 2.55 | 0.1 | 0.14 | 2 |
| 64 | -2530 | 50.38 | 1.38 | 15.31 | 8.94 | 0.16 | 8.1 | 12.36 | 2.75 | 0.12 | 0.17 | 1 |
| 65 | -1828 | 50.52 | 1.37 | 15.52 | 8.91 | 0.14 | 7.98 | 12.12 | 2.87 | 0.12 | 0.15 | 1 |
| 66 | -2350 | 50.52 | 1.34 | 15.77 | 8.95 | 0.17 | 8.04 | 11.97 | 2.71 | 0.11 | 0.14 | 1 |
| 67 | -2939 | 51.14 | 1.41 | 15.13 | 9.02 | 0.18 | 7.74 | 11.83 | 3.03 | 0.07 | 0.15 | |
| 68 | -1842 | 50.96 | 1.62 | 15.53 | 9.05 | 0.18 | 7.27 | 11.47 | 3.34 | 0.11 | 0.18 | |
| 69 | -2685 | 50.52 | 1.4 | 15.23 | 9 | 0.17 | 8.34 | 12 | 2.77 | 0.08 | 0.16 | |
| 70 | -2871 | 50.27 | 1.86 | 14.75 | 10.85 | 0.21 | 7.48 | 11.38 | 2.65 | 0.11 | 0.17 | 1 |
| 71 | -2284 | 50.68 | 0.96 | 15.46 | 8.03 | 0.15 | 8.99 | 12.75 | 2.5 | 0.05 | 0.14 | |
| 72 | -2570 | 50.56 | 1.43 | 15.9 | 8.34 | 0.17 | 7.79 | 12.1 | 2.66 | 0.48 | 0.23 | 1 |
| 73 | -2840 | 51.91 | 2.32 | 14.69 | 10.36 | 0.2 | 5.75 | 9.93 | 3.64 | 0.52 | 0.33 | 1 |
| 74 | -2840 | 48.8 | 1.87 | 16.61 | 9.33 | 0.17 | 8.15 | 11.16 | 3.04 | 0.34 | 0.23 | 1 |
| 75 | -2740 | 49.98 | 2.12 | 16.07 | 9.3 | 0.18 | 7.37 | 10.7 | 3.24 | 0.46 | 0.28 | 8 |
| 76 | -2740 | 51.51 | 2.26 | 14.74 | 10.16 | 0.2 | 6.06 | 10.42 | 3.54 | 0.5 | 0.3 | 8 |
| 77 | -2800 | 51.79 | 2.33 | 14.85 | 10.48 | 0.2 | 5.54 | 10.01 | 3.64 | 0.53 | 0.3 | 1 |
| 78 | -3053 | 48.56 | 1.39 | 17.11 | 8.95 | 0.17 | 9.02 | 11.09 | 3.25 | 0.05 | 0.13 | |
| 79 | -2594 | 50.93 | 1.77 | 14.93 | 9.55 | 0.19 | 7.18 | 11.48 | 3.34 | 0.17 | 0.2 | 1 |
| 80 | -2995 | 50.84 | 1.62 | 14.46 | 10.22 | 0.21 | 7.49 | 12.09 | 2.56 | 0.09 | 0.15 | |
| 81 | -2563 | 51.09 | 1.57 | 14.89 | 9.6 | 0.17 | 7.43 | 11.68 | 2.95 | 0.16 | 0.17 | |
| 82 | | | | | | | | | | | | |
| 83 | | | | | | | | | | | | |
| 84 | | | | | | | | | | | | |
| 85 | | | | | | | | | | | | |
| 86 | ANIC CRUST IN THE EASTERN PACIFIC MANTLE | | | | | | | | | | | |
| 87 | | | | | | | | | | | | |
| 88 | | | | | | | | | | | | |
| 89 | **unctions ONLY.** | | | | | | | | | | | |
| 90 | **uracy or any scientific implication.** | | | | | | | | | | | |
| 91 | | | | | | | | | | | | |

You don't need to select the series name & series number columns if they are the first two columns on the sheet

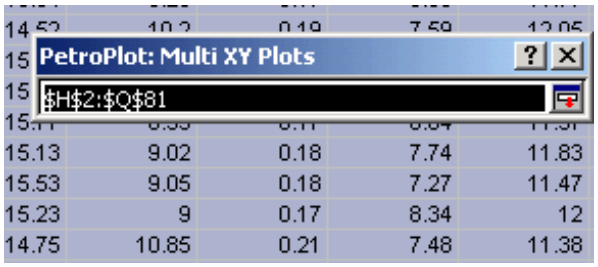
**Step 2:**
Click the "Multi-XY plots" button



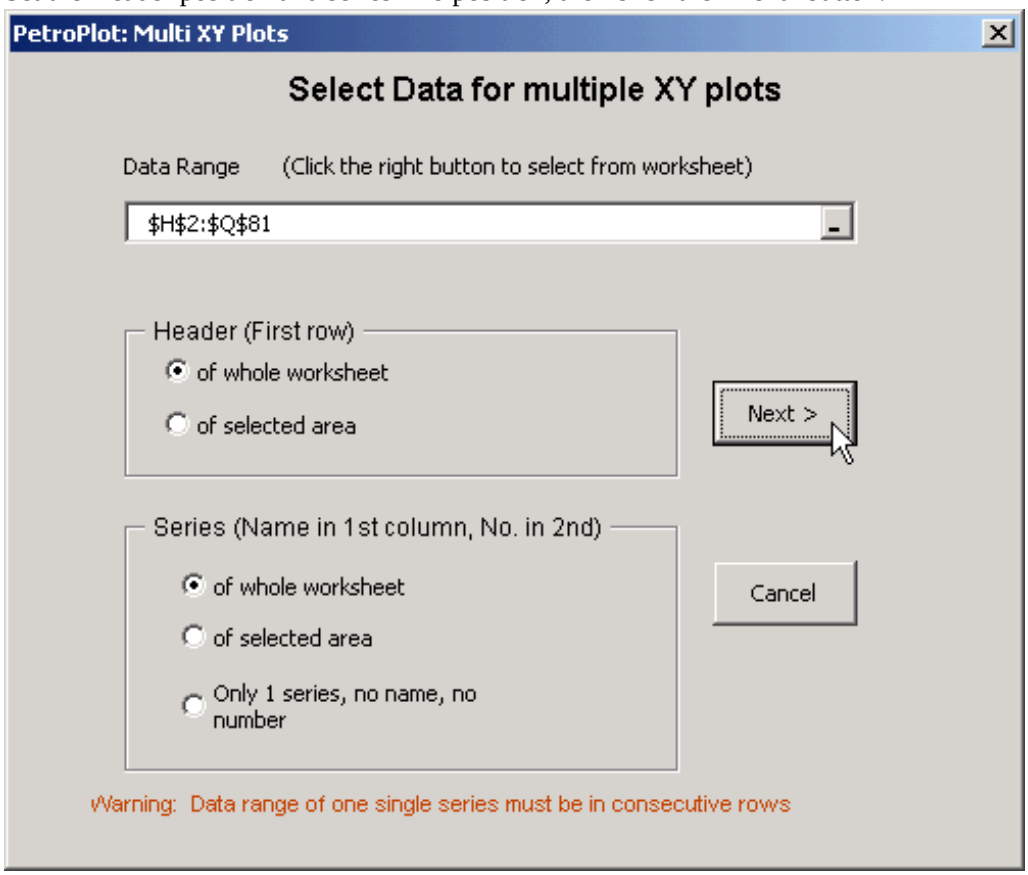

The Select Data window appears.



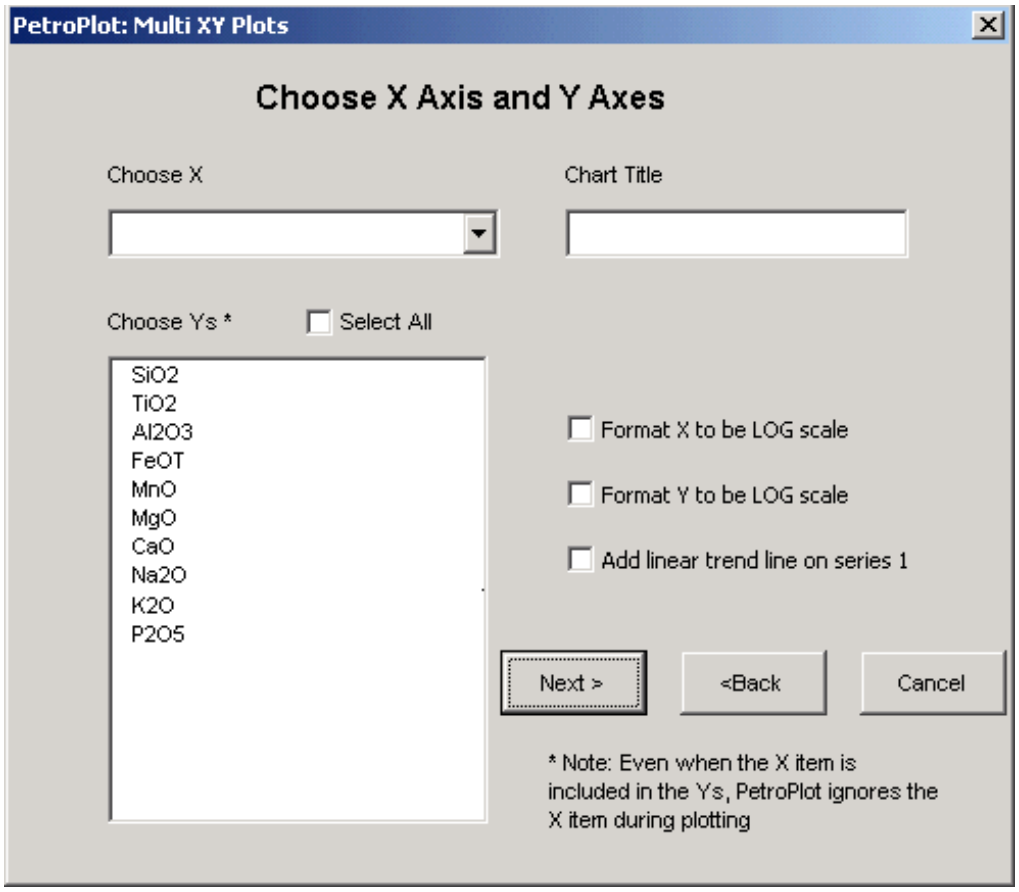

You can modify the data range by clicking the right side of the input box.



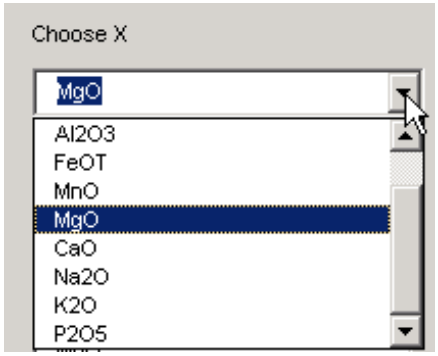

Set the Header position and series info position, then click the "Next" button.



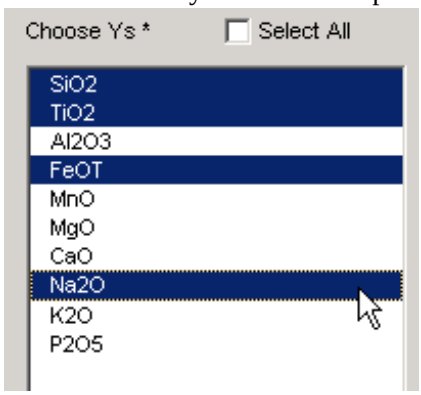

**Step 3:**
Choose axes.



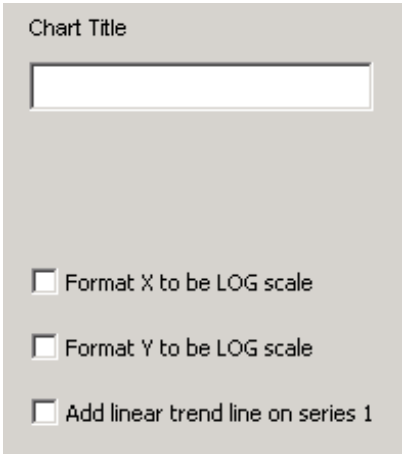

You can select ONLY ONE X-axis.



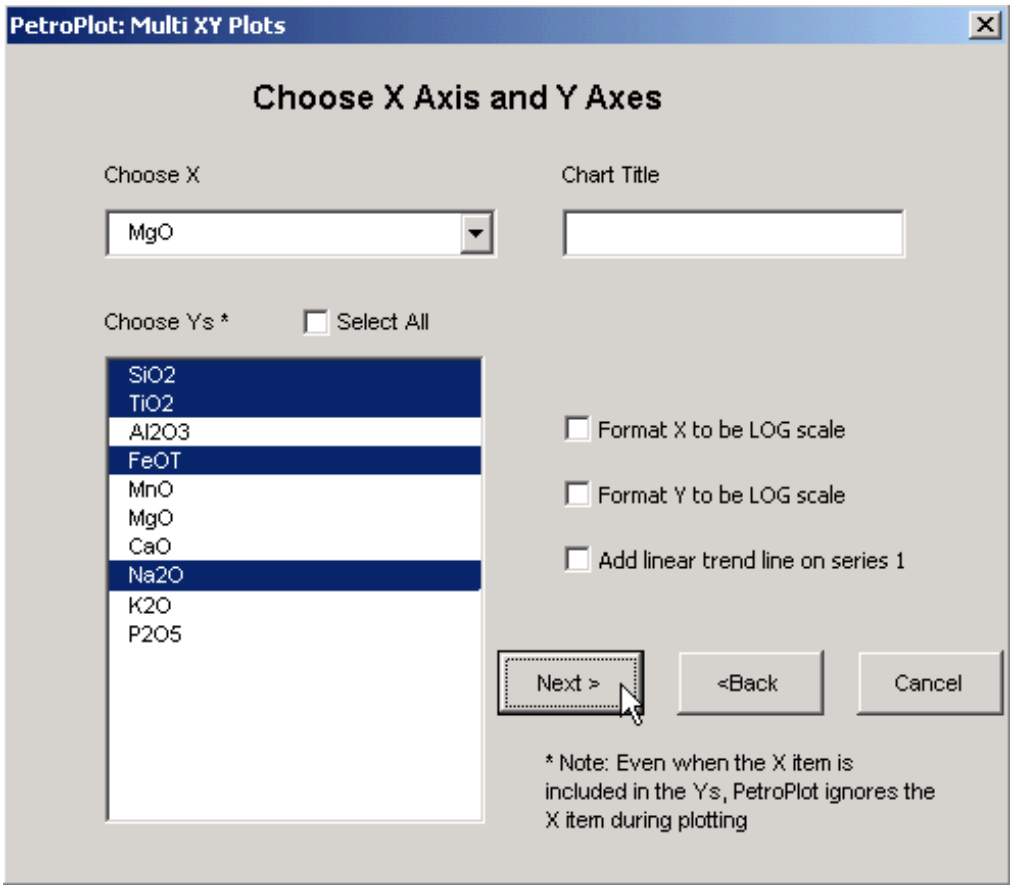

Hold the Ctrl key to select multiple Y-axes.




All the right side inputs are optional.




Now click the "Next" button.




**Done!** You get the plots as in the result diagram.

**Known problems:**
***Empty cell problem.***
If there exist empty cells in the selected data range, the PetroPlot program might hang up. Details...

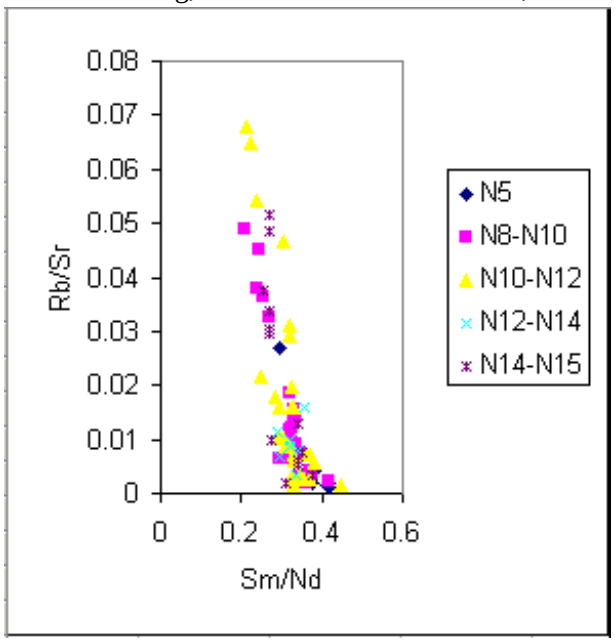
*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Tutorial: Multi-XY function**

# PetroPlot Tutorial

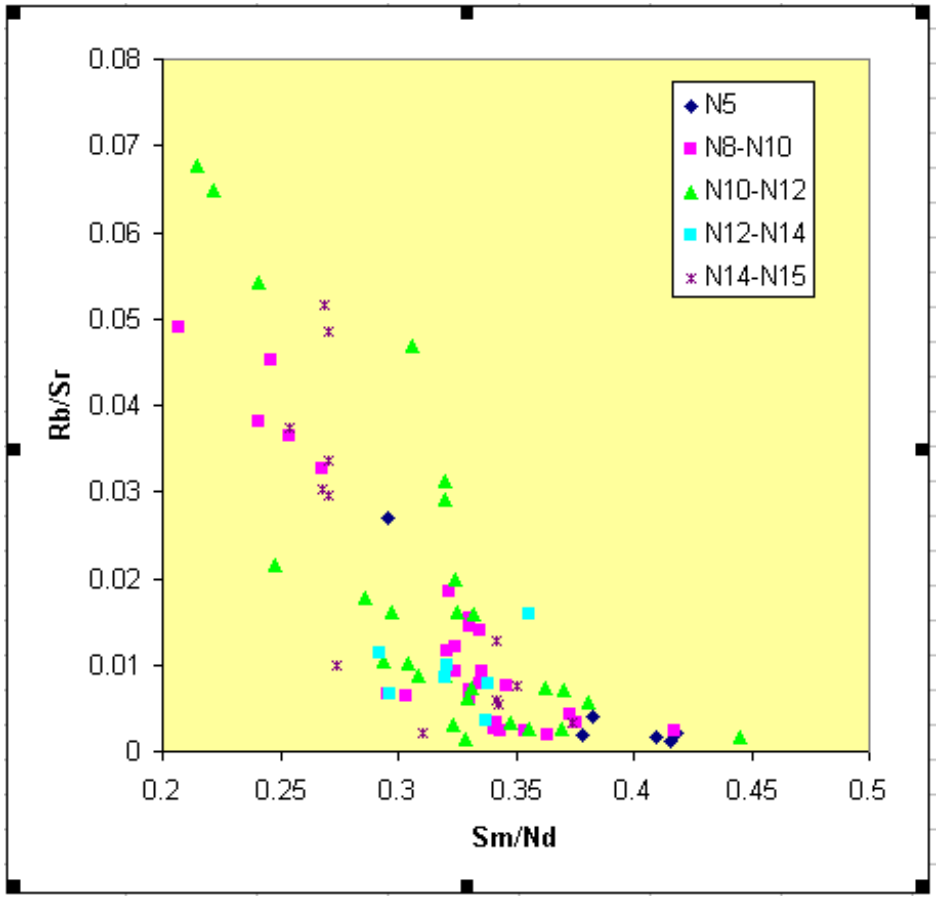
# ChangeXY function

**Purpose:**
This function changes axes for all series in a single XY plot, while preserving the chart format.
It is useful for generating multiple high-quality plots with complex formatting, especially when there are a large number of series.

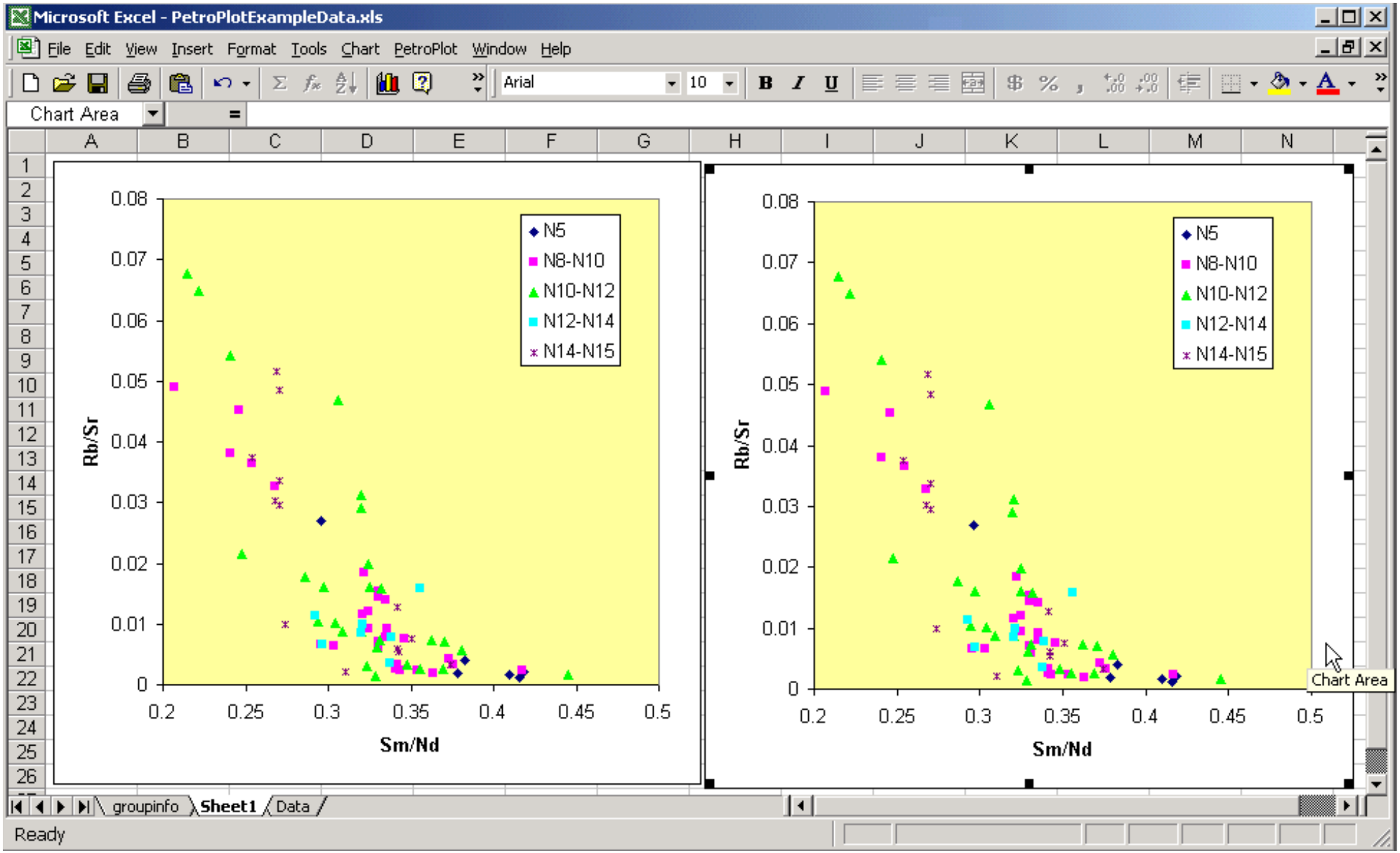
For example, the formatting of the XY charts follows Excel's default settings, which might be unsatisfactory.
In the following, series 1 uses blue diamonds, series 2 uses pink squares, and series 3 uses yellow triangles, etc. You may want to change the colors or the shapes



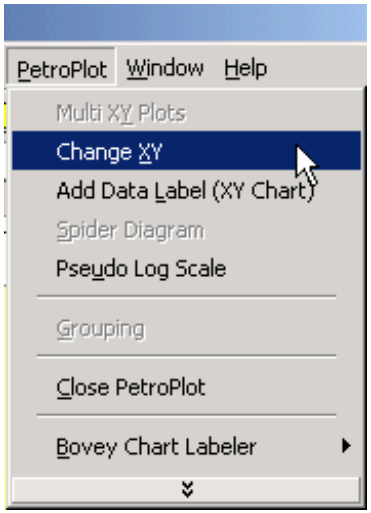

**Start:**
Format the diagram as you want. This is your template.



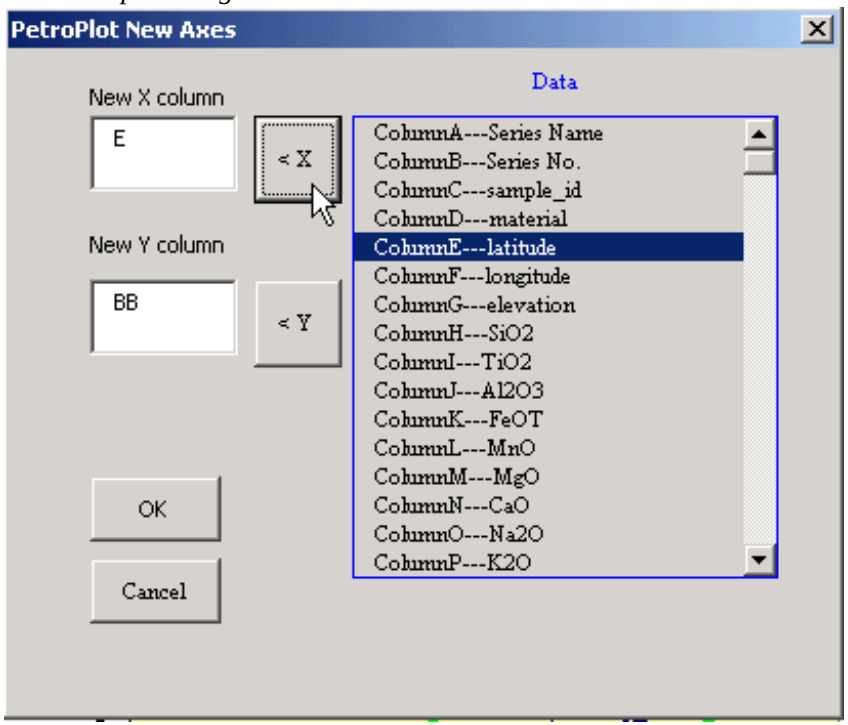

**Step 1:**
We suggest that you copy the template to another location inside this workbook.
*(The ChangeXY function does not work if a chart contains data from other workbooks.)*



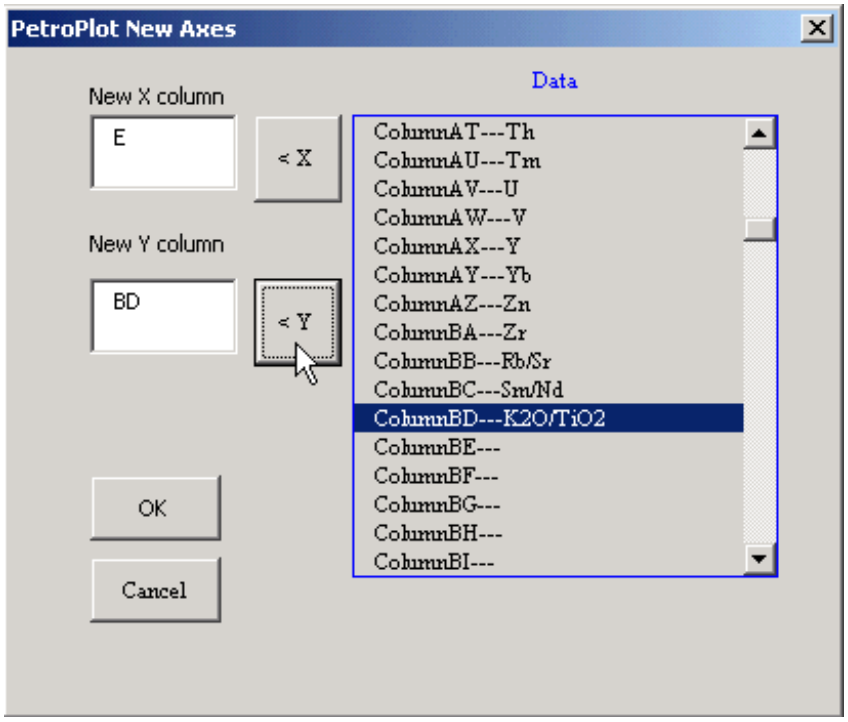

**Step 2:**
Select the diagram, Click the PetroPlot --> ChangeXY button.



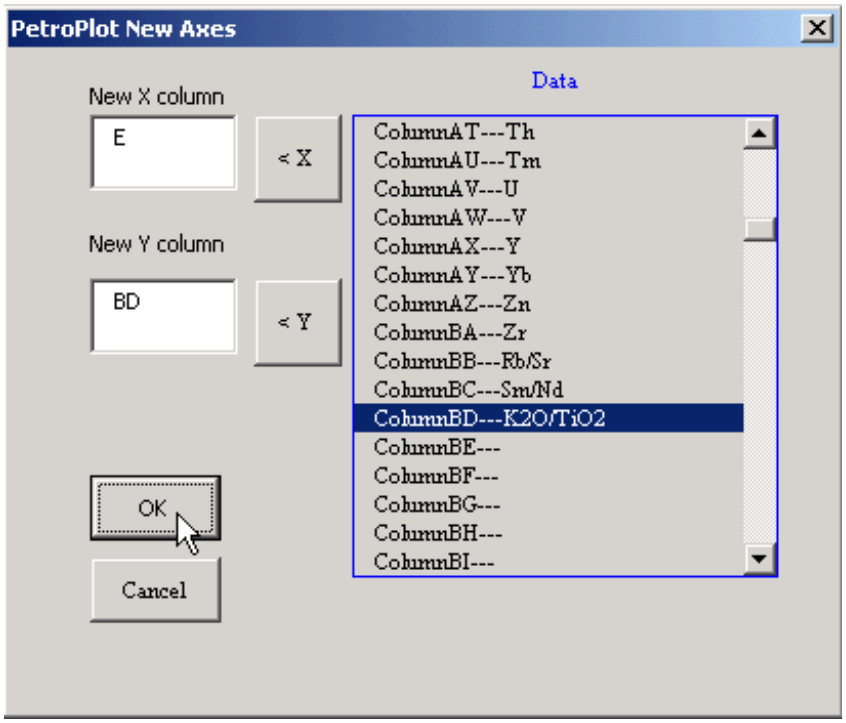

**Step 3:**
Change the X or (and) Y axes.
*This example changes X axis.*



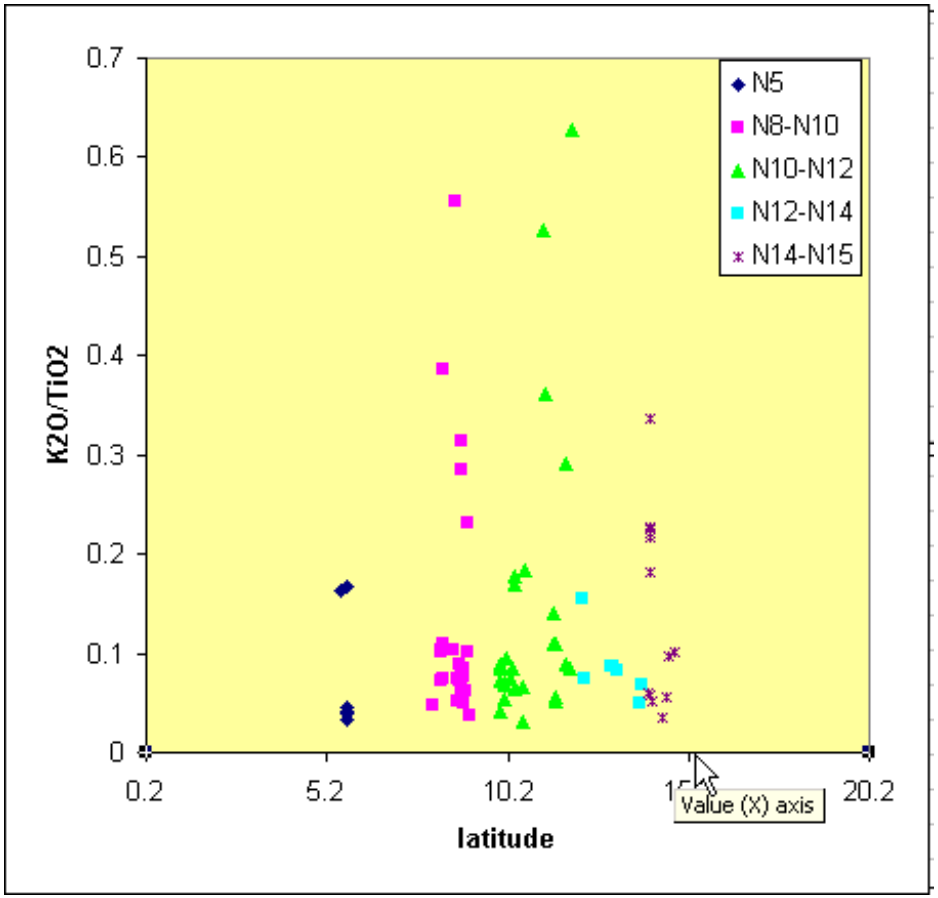

*This example changes Y axis.*



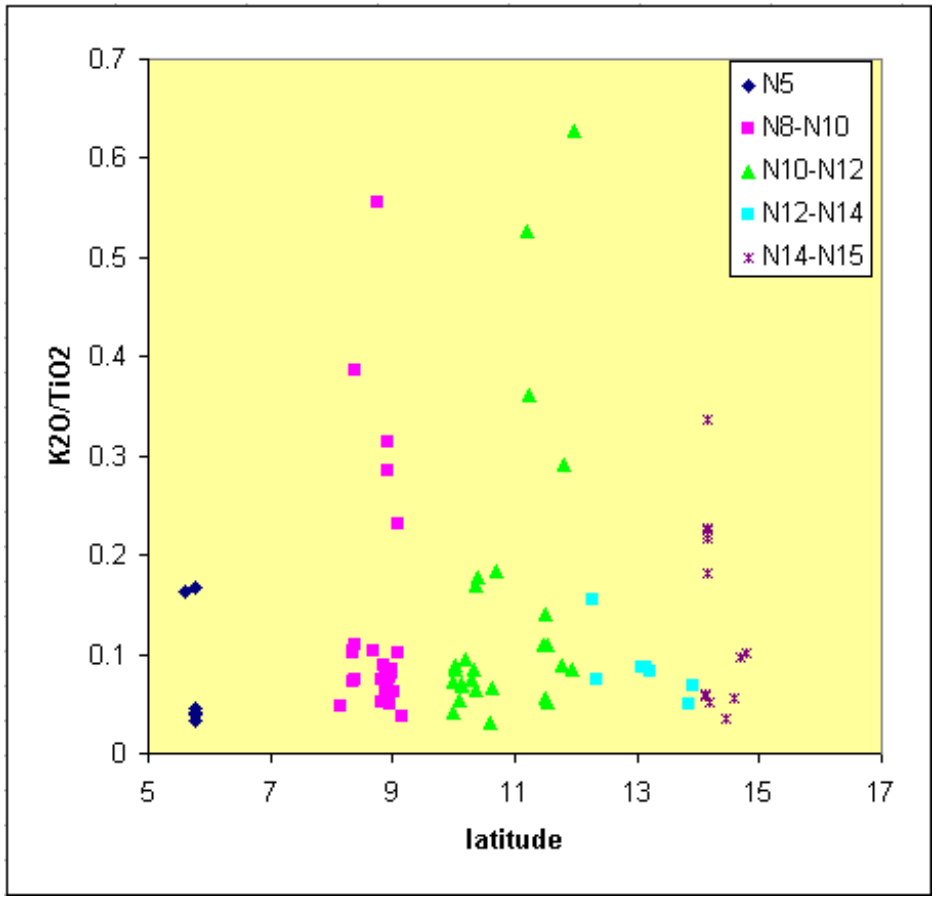

**Step 4:**
Click the "Next" button.




**Step 5:**
The scale of new plot needs to be manually adjusted.


0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
K2O/TiO2
0.2
5.2
10.2
20.2
latitude
N5
N8-N10
N10-N12
N12-N14
N14-N15
Value (X) axis

**Result:**




**Known problems:**

***1. Not XY Scatter.***

If there exist lines connecting scatter points, the PetroPlot program won't continue. Details...

***2. Data from other sheets or other files.***

PetroPlot only changes series with data from the current workbook. All series need to come from the SAME SHEET. Details...

***3. Label-log-scale charts.***

PetroPlot does not changeXY on label-log-scale results.

*Last modified 05/30/2002, Yong Jun Su*

This line marks the end of **PetroPlot Tutorial: ChangeXY function**

# PetroPlot Tutorial

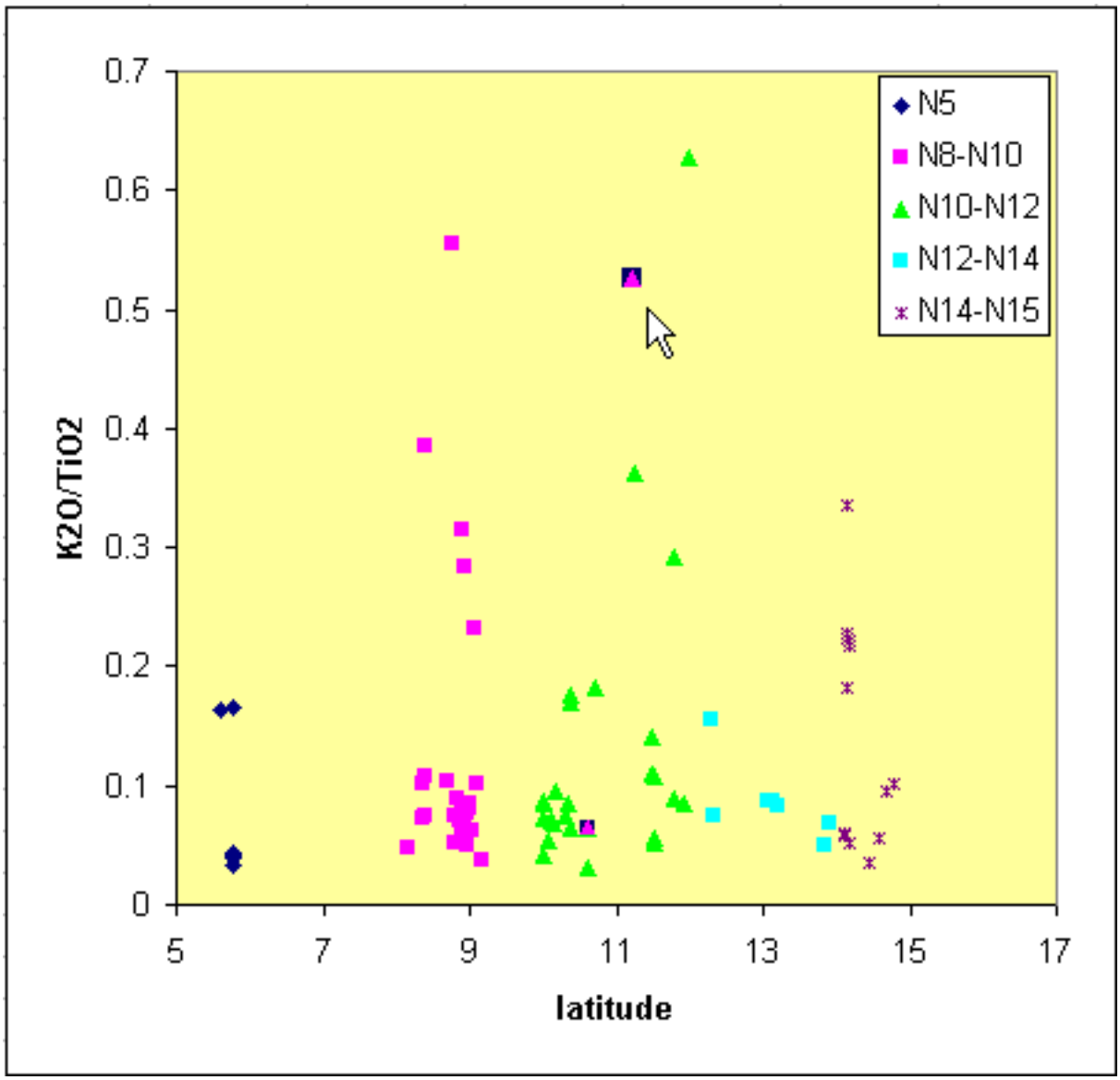
# Add Data Label (XY chart) function

**Purpose:**
Excel automated data labels are limited to either X values or Y values. Customized labels such as sample names, locations, and references etc. are more valuable information on a plot.

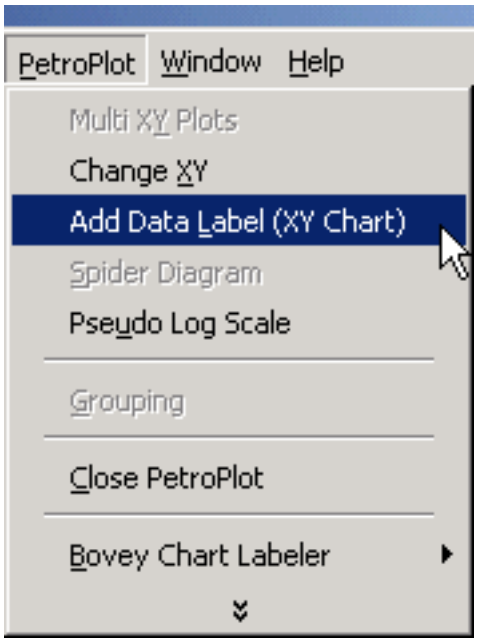
With PetroPlot, any kind of information can be labeled, and adding customized labels is as easy as to add Excel default labels. Labels added to a template chart will pass automatically if the chart is changed with the "ChangeXY" function.

We also imported a set of label tools from Rob Bovey (www.appspro.com).
"Bovey Chart Labeler" adds labels to a variety of chart types, including XY Scatter, Line, Column, Bar etc.
"Bovey Chart Labeler" moves labels of a whole series (Excel doesn't allow this type of movement by default).
Please visit Bovey Chart Labeler...

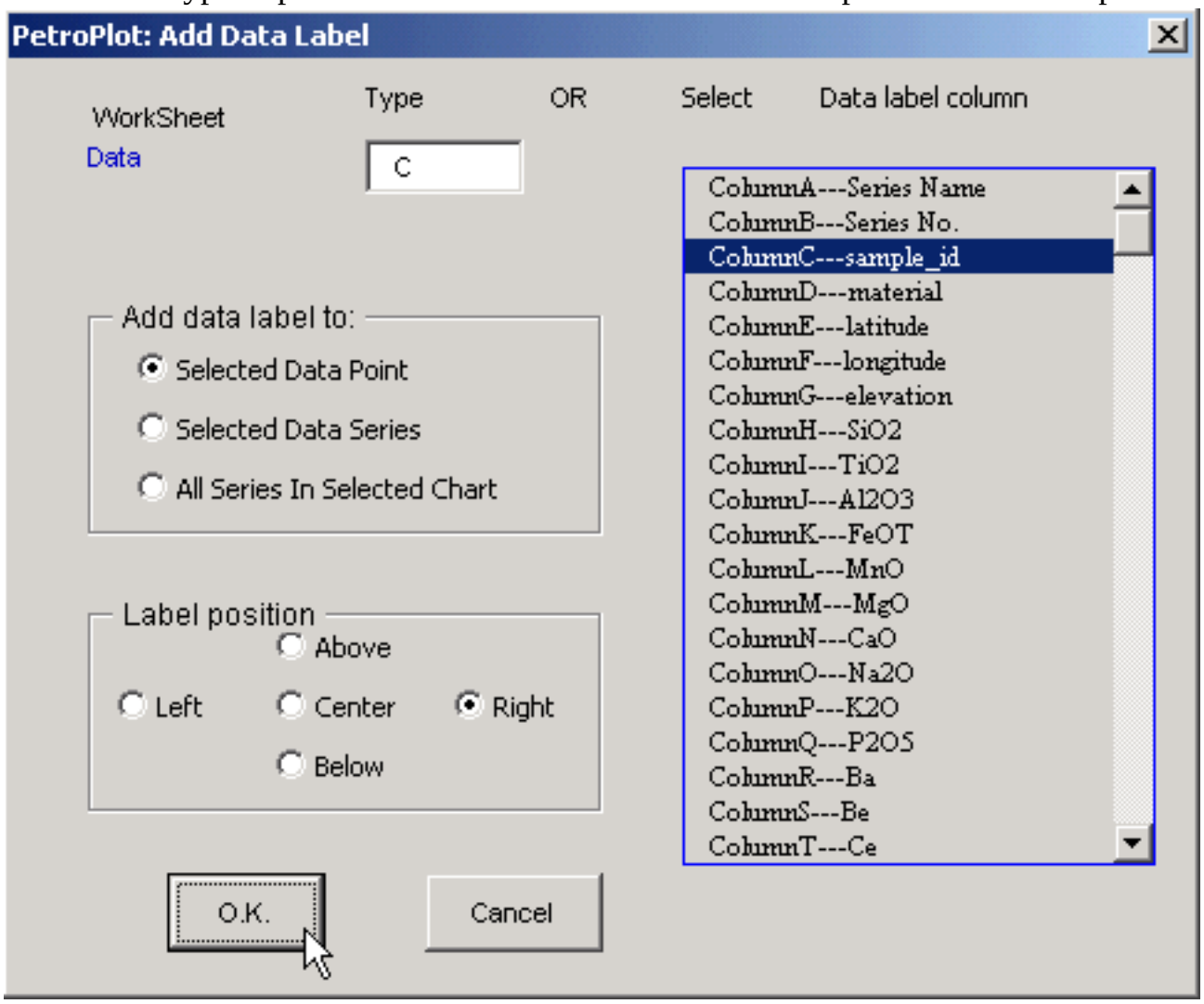
**Add label to a point:**
Select a point on XY scatter chart.
*(Excel tip: Clicking a point once gives you the selection of the whole series. Clicking the same point again gives you the point. NO double-clicking. )*



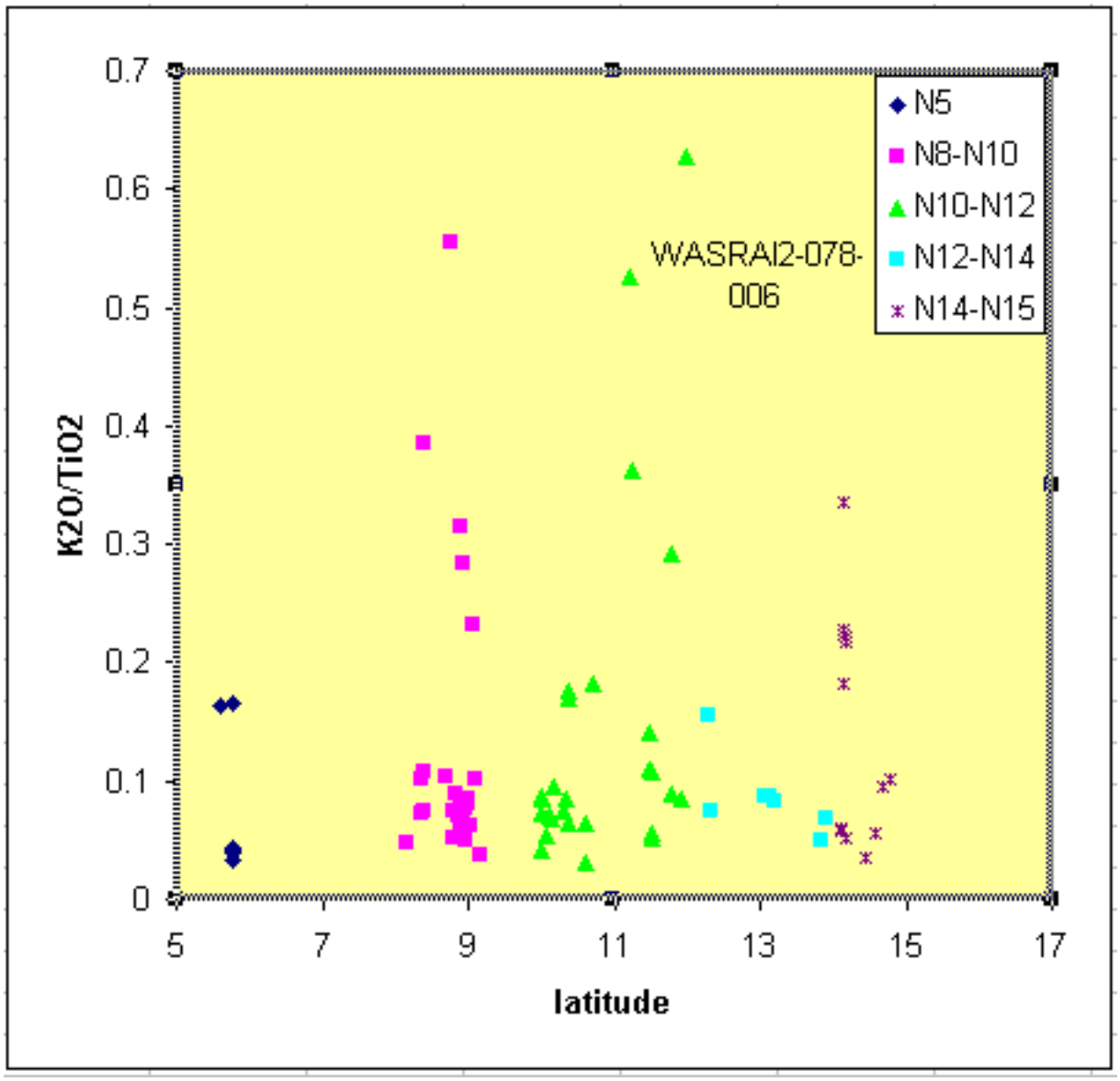

Click PetroPlot --> Add Data Label (XY Chart)



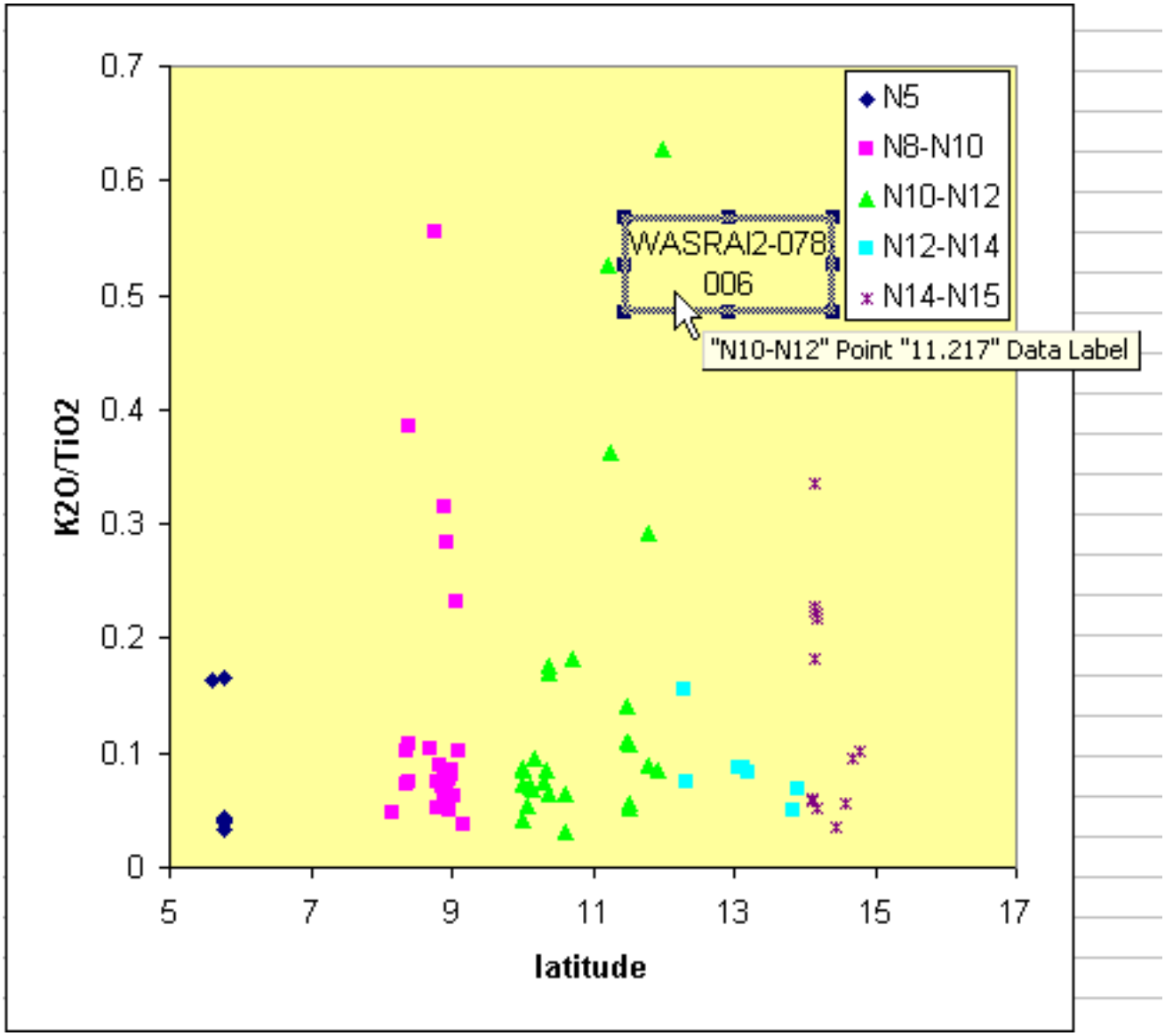
Select label type & position. Here we will label the selected point with the sample name.



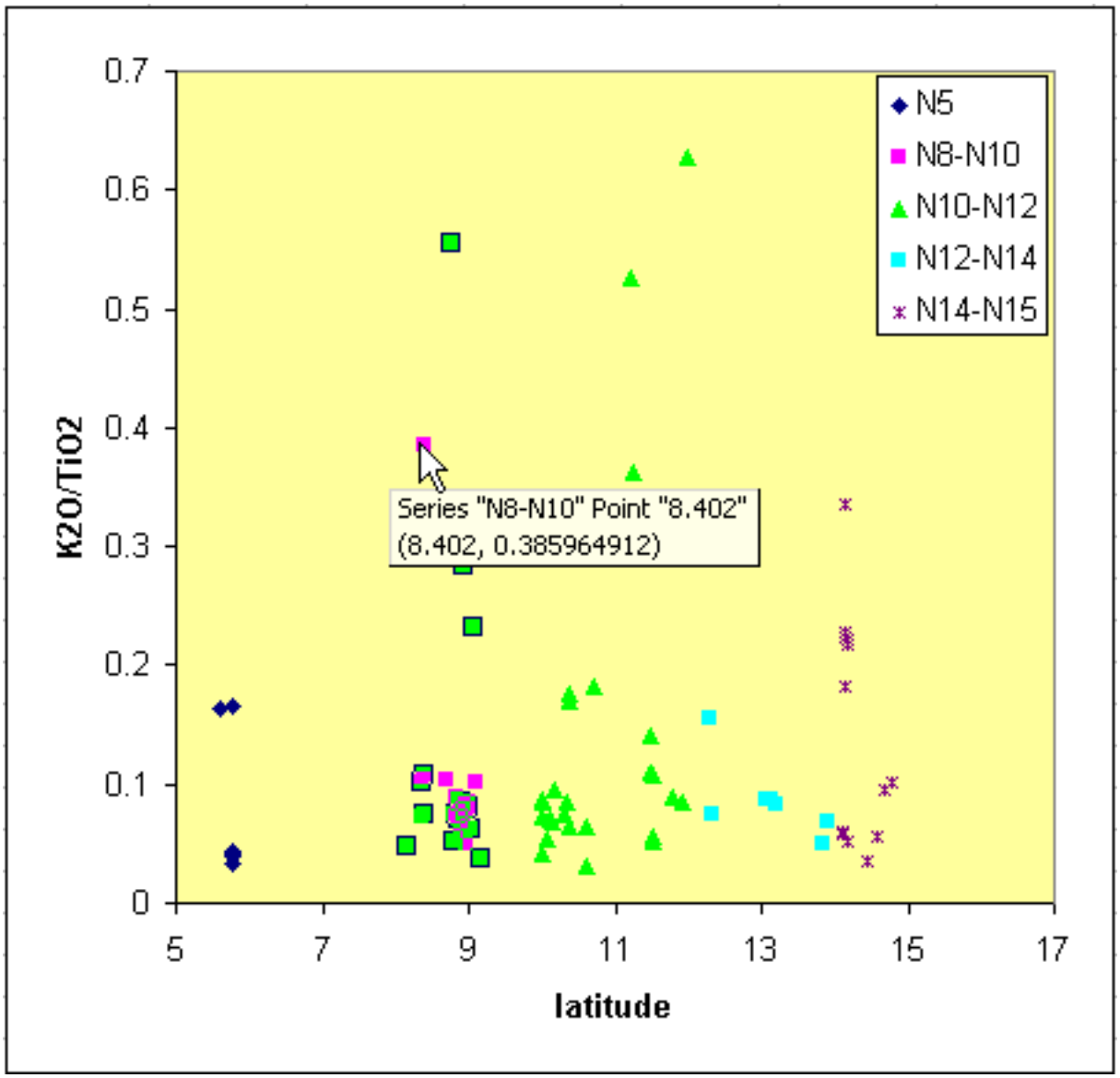

Result:



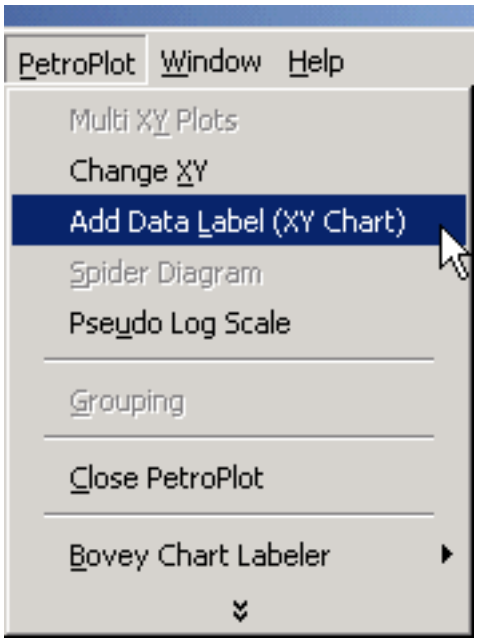

**Remove data label for a point:**
Select the label. Then hit the "Delete" button on your keyboard
*(Excel tip: you may need to click the label twice to select the label. Warning: NO double-clicking. )*



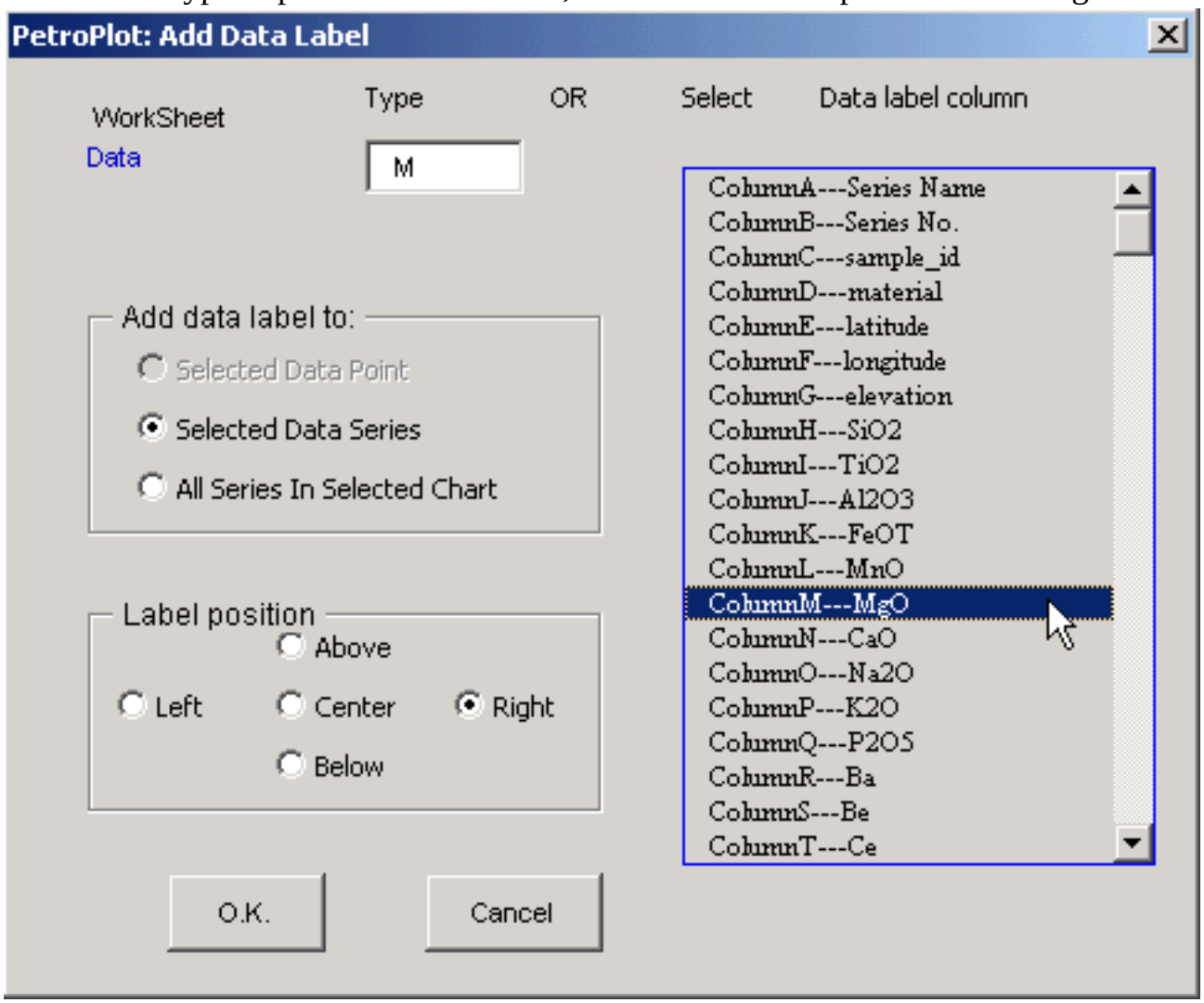

**Add labels to a series:**
Select a series or a point on XY scatter chart.



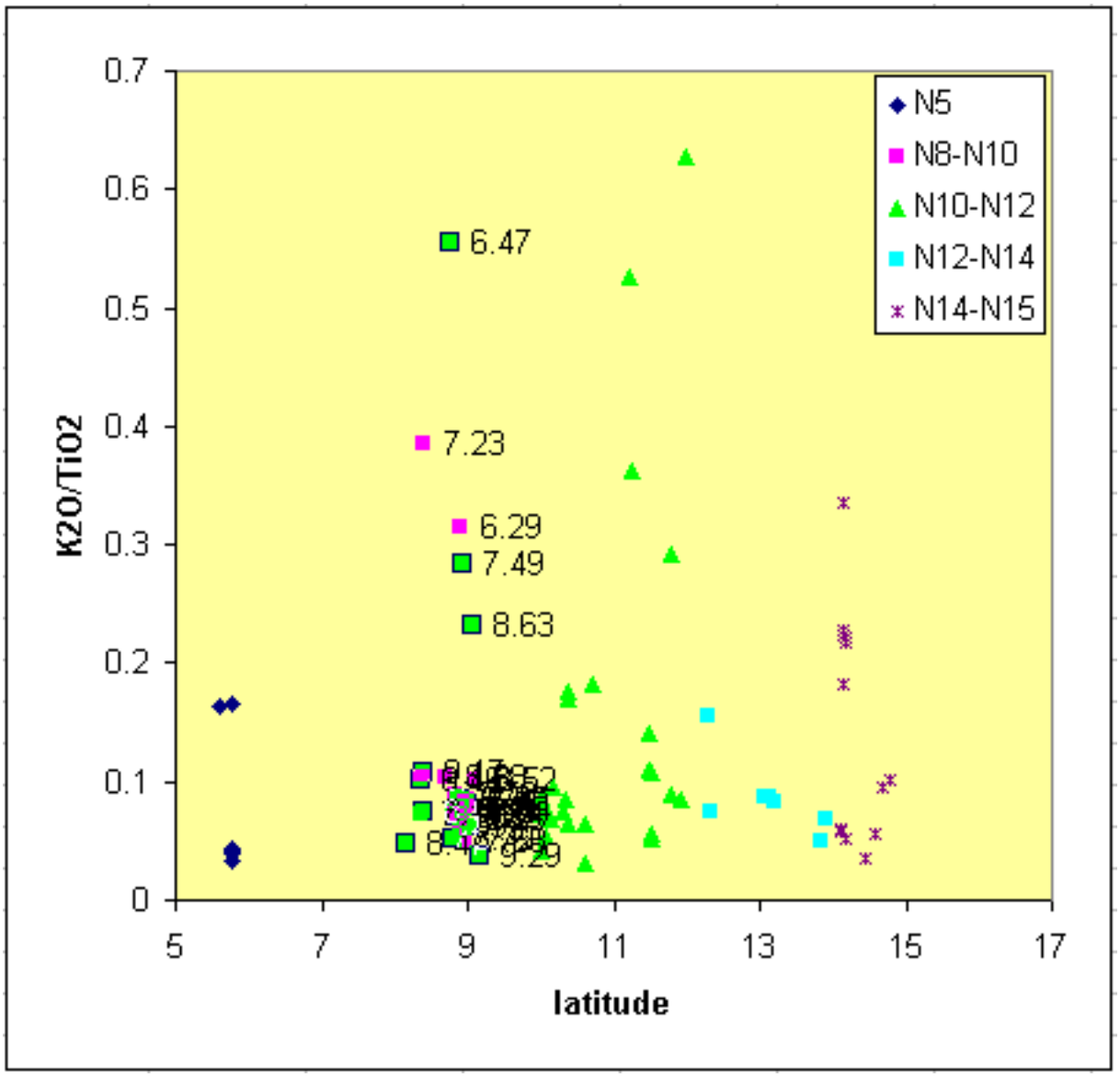

Click PetroPlot --> Add Data Label (XY Chart)



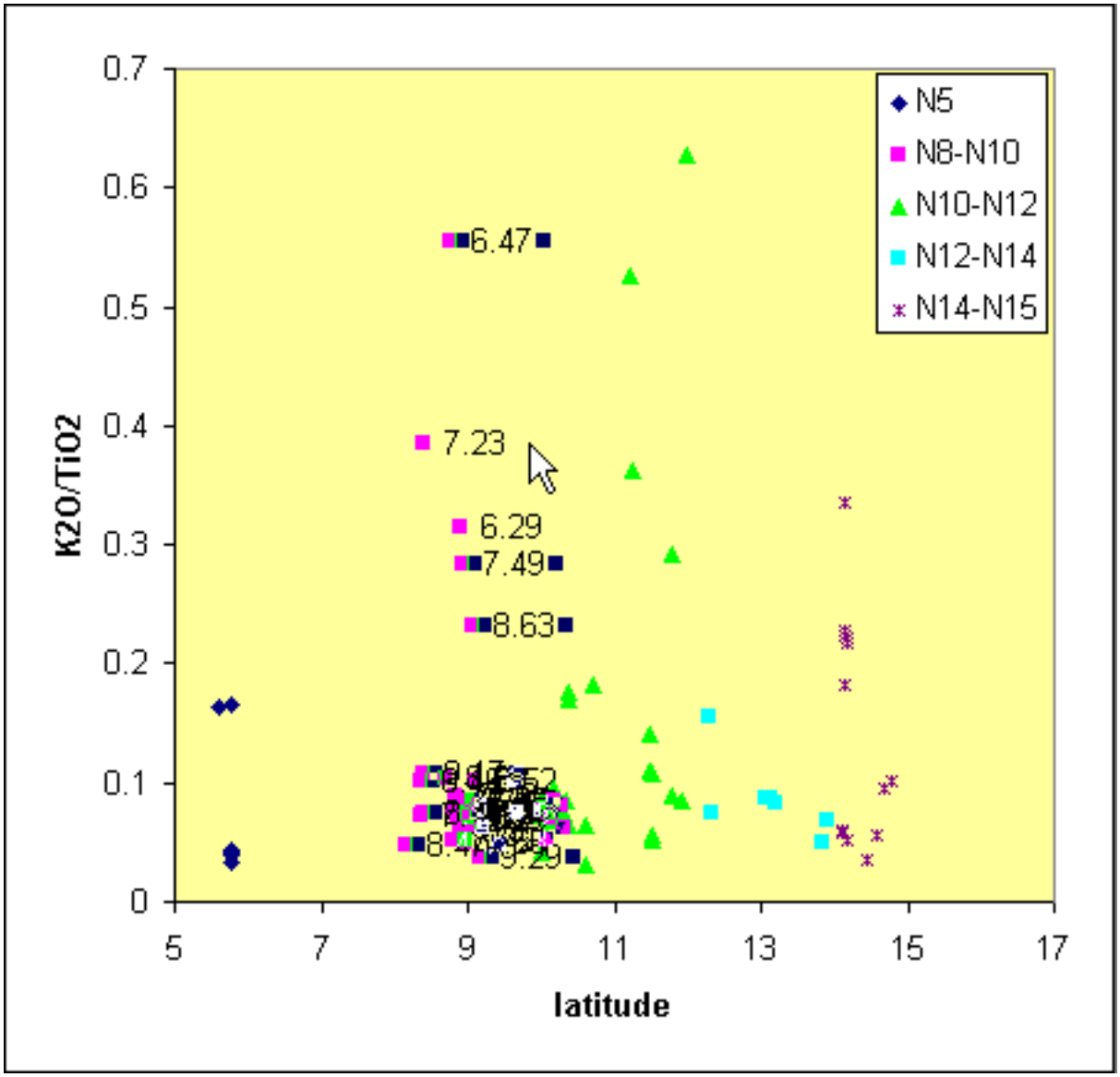
Select label type & position. In this case, we will label each point with the MgO content.



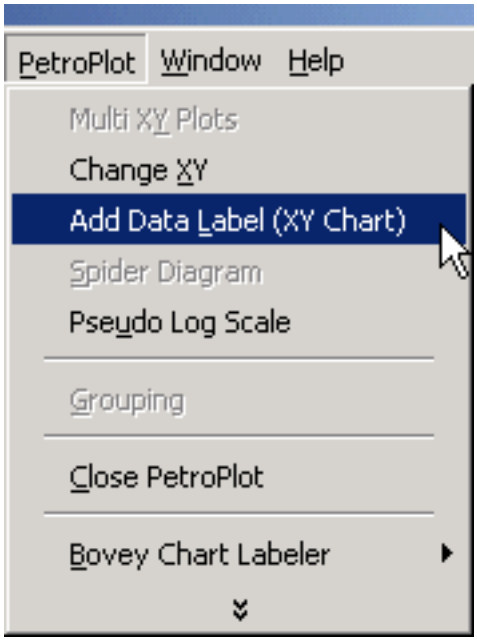

Result:



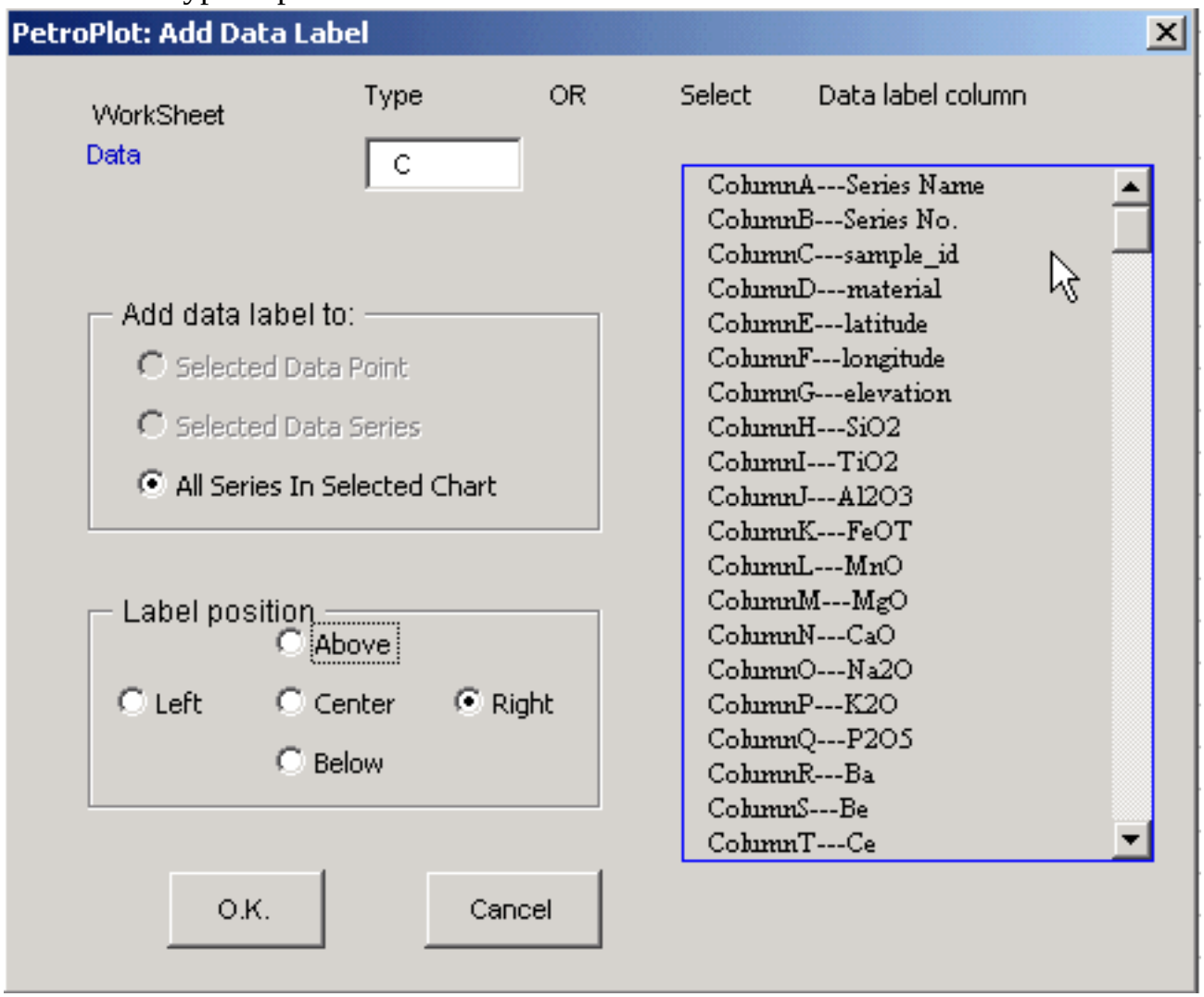

**Remove labels for a series:**
Select the labels for a series  Then hit the "Delete" button on your keyboard




**Add labels to all series in a chart:**
Select a point, a series, or the whole chart on XY scatter chart.
Click PetroPlot --> Add Data Label (XY Chart)




Select label type & position.



**Known problems:**

***1. Not XY Scatter.***

If there exist lines connecting scatter points, the PetroPlot program won't continue. Details...

***2. Data from other sheets or other files.***

All series need to come from the SAME SHEET of the current workbook. Details...

*Last modified 05/30/2002, Yong Jun Su*

This line marks the end of **PetroPlot Tutorial: Add Data Label (XY chart) function**

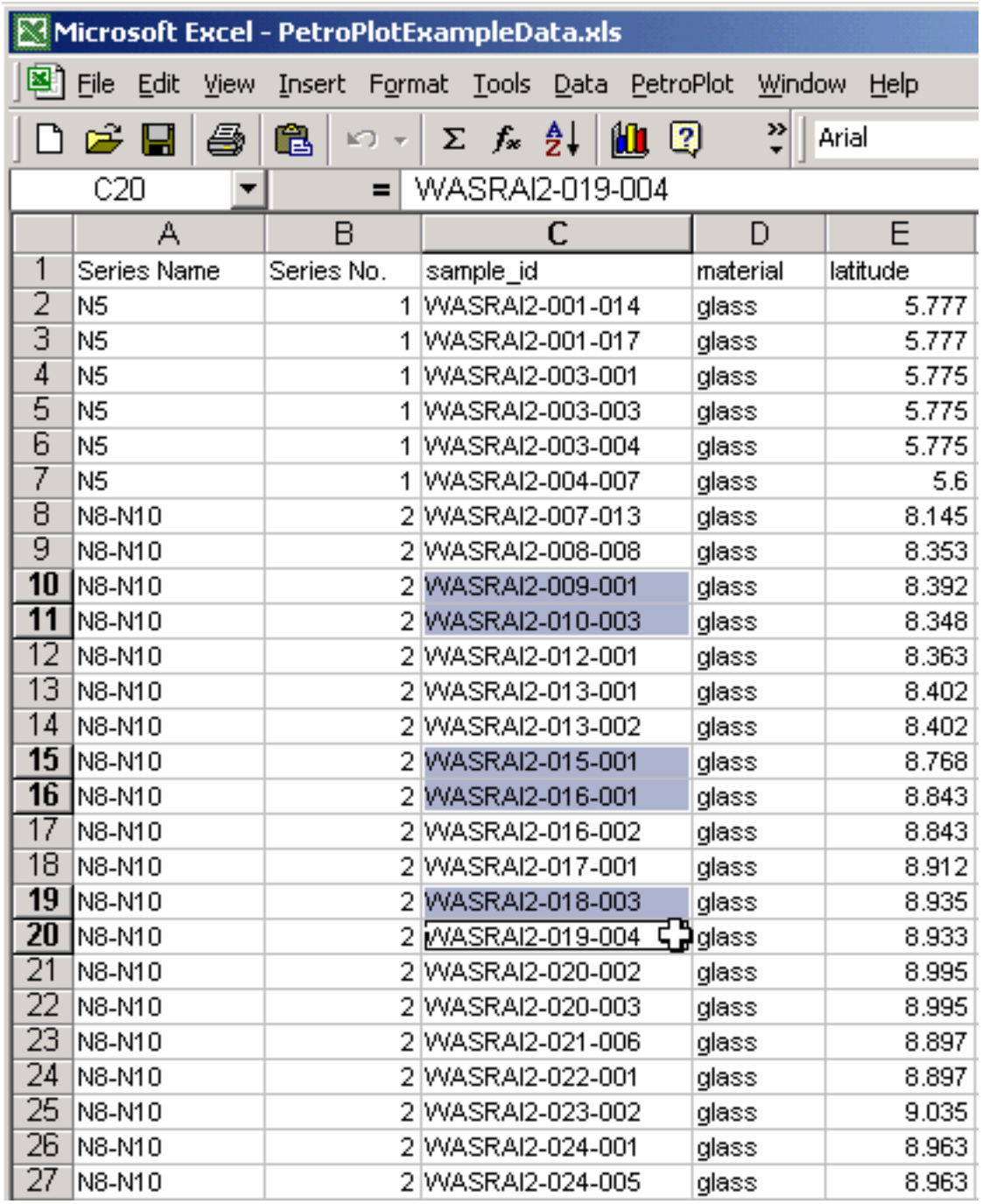
# PetroPlot Tutorial

# Spider Diagram function

**Purpose:**
Spider diagrams are plots of normalized data where data for many elements are normalized to a reference such as primitive mantle. Such plots are commonly used to compare samples and to investigate trace element systematics in geochemistry. In order to make a spider diagram, the data have to be organized such that elements are in a specific order, and chemical values are divided by the standard values. PetroPlot “SpiderDiagram” function automates the entire process

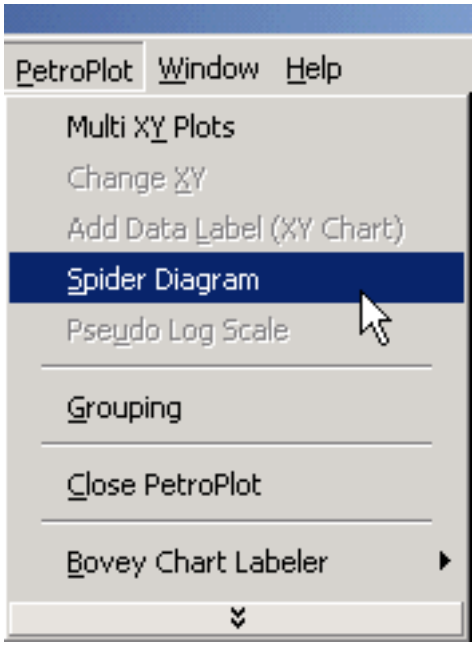
**Start:**
Make sure the file PetroPlotSpider.xls is open.
You can customize the standard values in the "PetroPlotSpider.xls" file.

**Step 1:**
Select a set of rows on a data sheet.
*(Notice: You can select any column. PetroPlot only reads the row positions from your selection.)*




| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | Series Name | Series No. | sample_id | material | latitude |
| 2 | N5 | 1 | WASRAI2-001-014 | glass | 5.777 |
| 3 | N5 | 1 | WASRAI2-001-017 | glass | 5.777 |
| 4 | N5 | 1 | WASRAI2-003-001 | glass | 5.775 |
| 5 | N5 | 1 | WASRAI2-003-003 | glass | 5.775 |
| 6 | N5 | 1 | WASRAI2-003-004 | glass | 5.775 |
| 7 | N5 | 1 | WASRAI2-004-007 | glass | 5.6 |
| 8 | N8-N10 | 2 | WASRAI2-007-013 | glass | 8.145 |
| 9 | N8-N10 | 2 | WASRAI2-008-008 | glass | 8.353 |
| 10 | N8-N10 | 2 | WASRAI2-009-001 | glass | 8.392 |
| 11 | N8-N10 | 2 | WASRAI2-010-003 | glass | 8.348 |
| 12 | N8-N10 | 2 | WASRAI2-012-001 | glass | 8.363 |
| 13 | N8-N10 | 2 | WASRAI2-013-001 | glass | 8.402 |
| 14 | N8-N10 | 2 | WASRAI2-013-002 | glass | 8.402 |
| 15 | N8-N10 | 2 | WASRAI2-015-001 | glass | 8.768 |
| 16 | N8-N10 | 2 | WASRAI2-016-001 | glass | 8.843 |
| 17 | N8-N10 | 2 | WASRAI2-016-002 | glass | 8.843 |
| 18 | N8-N10 | 2 | WASRAI2-017-001 | glass | 8.912 |
| 19 | N8-N10 | 2 | WASRAI2-018-003 | glass | 8.935 |
| 20 | N8-N10 | 2 | WASRAI2-019-004 | glass | 8.933 |
| 21 | N8-N10 | 2 | WASRAI2-020-002 | glass | 8.995 |
| 22 | N8-N10 | 2 | WASRAI2-020-003 | glass | 8.995 |
| 23 | N8-N10 | 2 | WASRAI2-021-006 | glass | 8.897 |
| 24 | N8-N10 | 2 | WASRAI2-022-001 | glass | 8.897 |
| 25 | N8-N10 | 2 | WASRAI2-023-002 | glass | 9.035 |
| 26 | N8-N10 | 2 | WASRAI2-024-001 | glass | 8.963 |
| 27 | N8-N10 | 2 | WASRAI2-024-005 | glass | 8.963 |

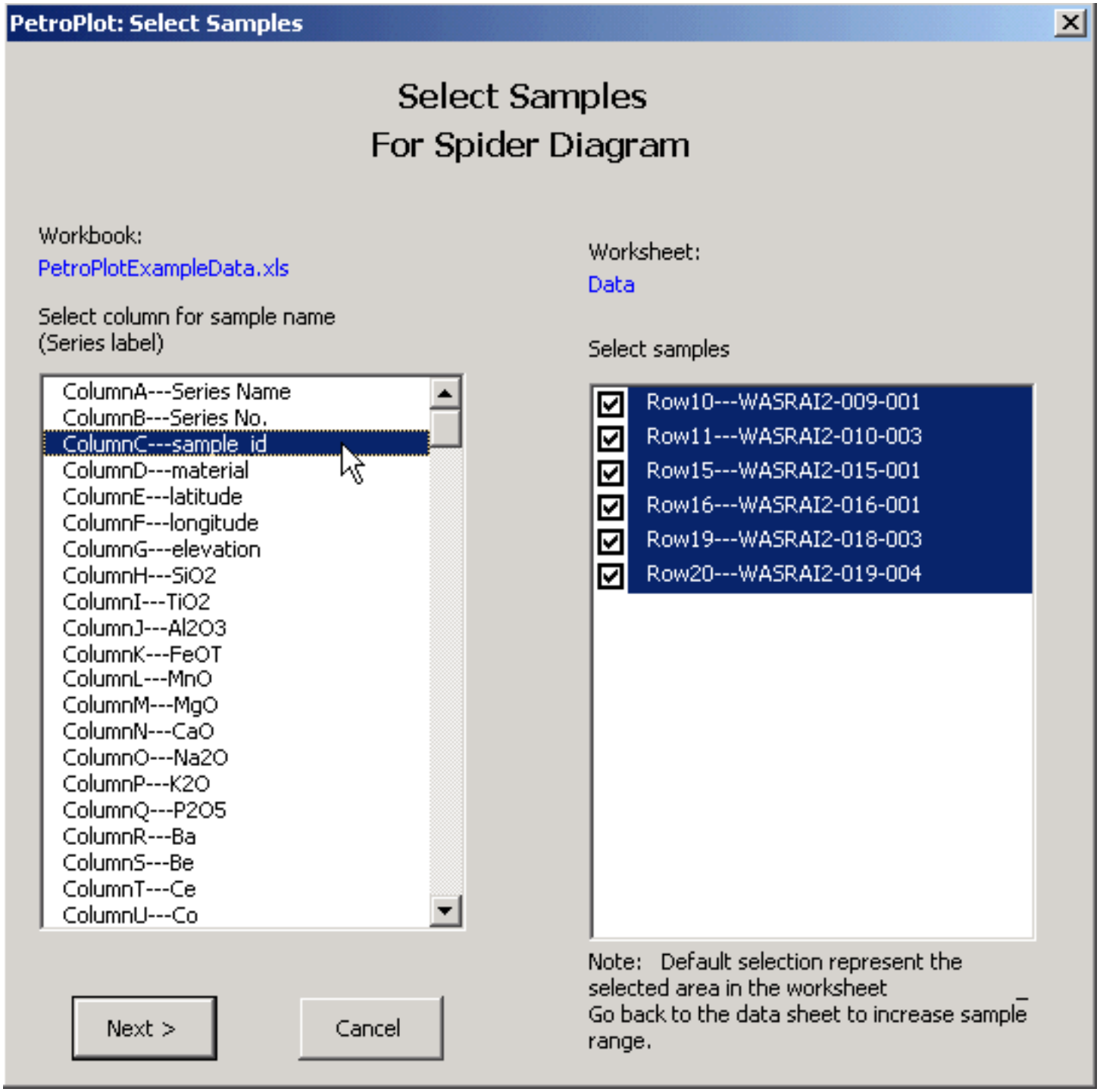
Click PetroPlot --> Spider Diagram.



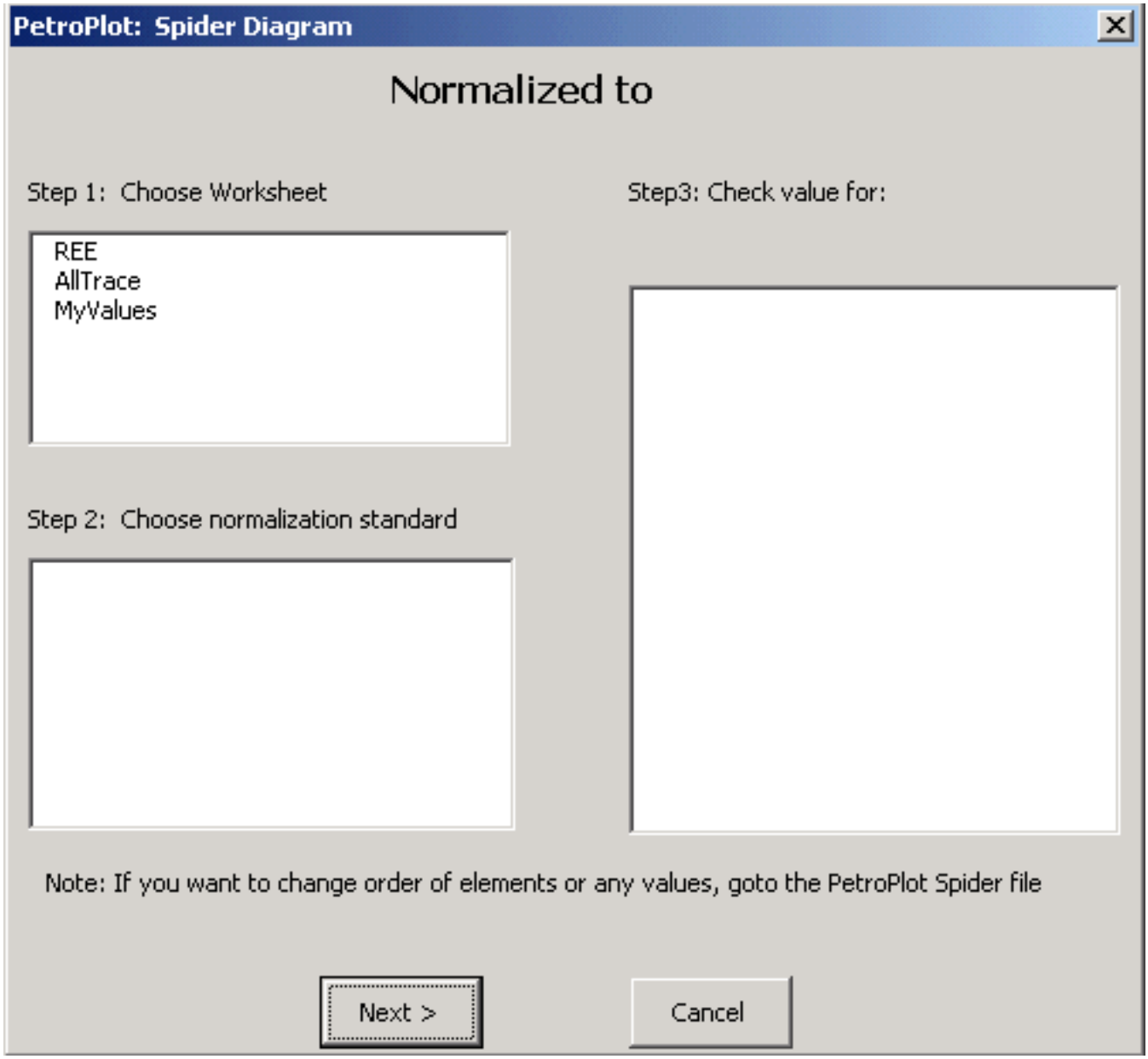

**Step 2:**

Select a column as legend for the spider diagram, then click "Next"

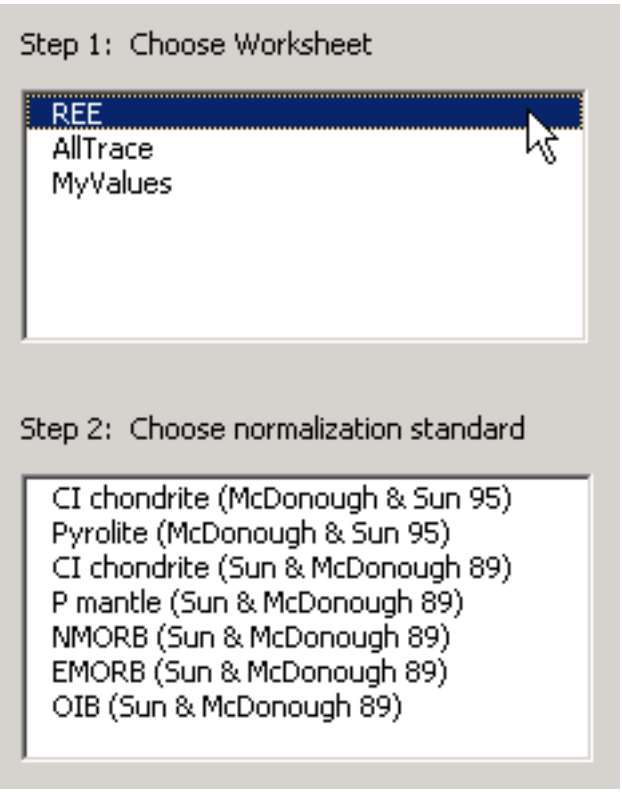
*(Warning: Don't use any number values as legend, e.g. if a sample is named as "32", rename it to a string.)*




**Step 3:**
Set up standard values (i.e. to what values data should be normalized).

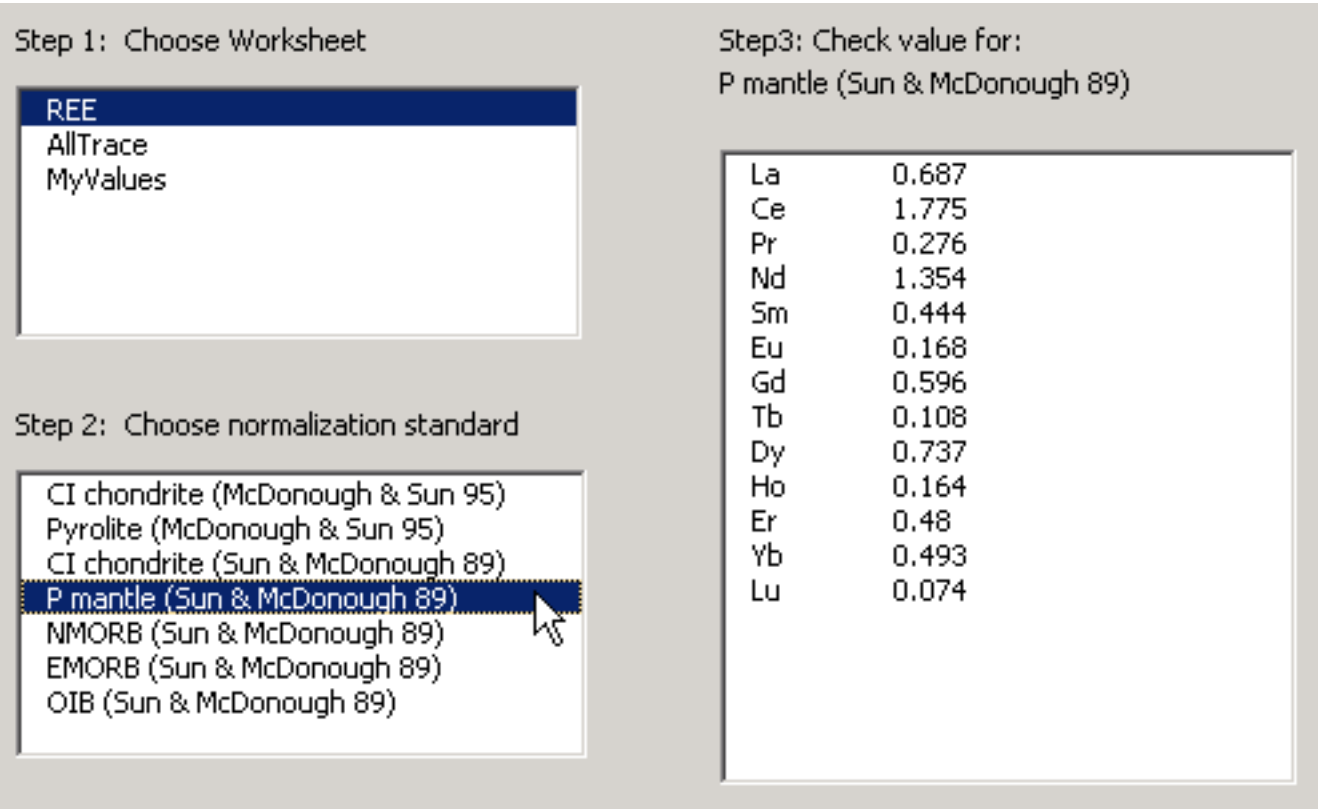



***Select a worksheet:***
When you click a value in the upper left panel, the lower left panel will show standards in the selected worksheet




***Select a standard:***

When you click a standard in the lower left panel, the right panel will show values.
However, you don't need to select from the right panel.
The right panel is for the purpose to check values and make sure those are what you want to use.



***Click the "Next" button. Done!***

**Results:**
PetroPlot adds a new sheet for selected samples, orders the elements based on the selected standard, calculates the normalization values, and makes line charts.

**Known problems:**
***Use numbers as legend.***
If you use numbers as legends, the PetroPlot program will generate errors. Details...

*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Tutorial: Spider Diagram function**

# PetroPlot Tutorial

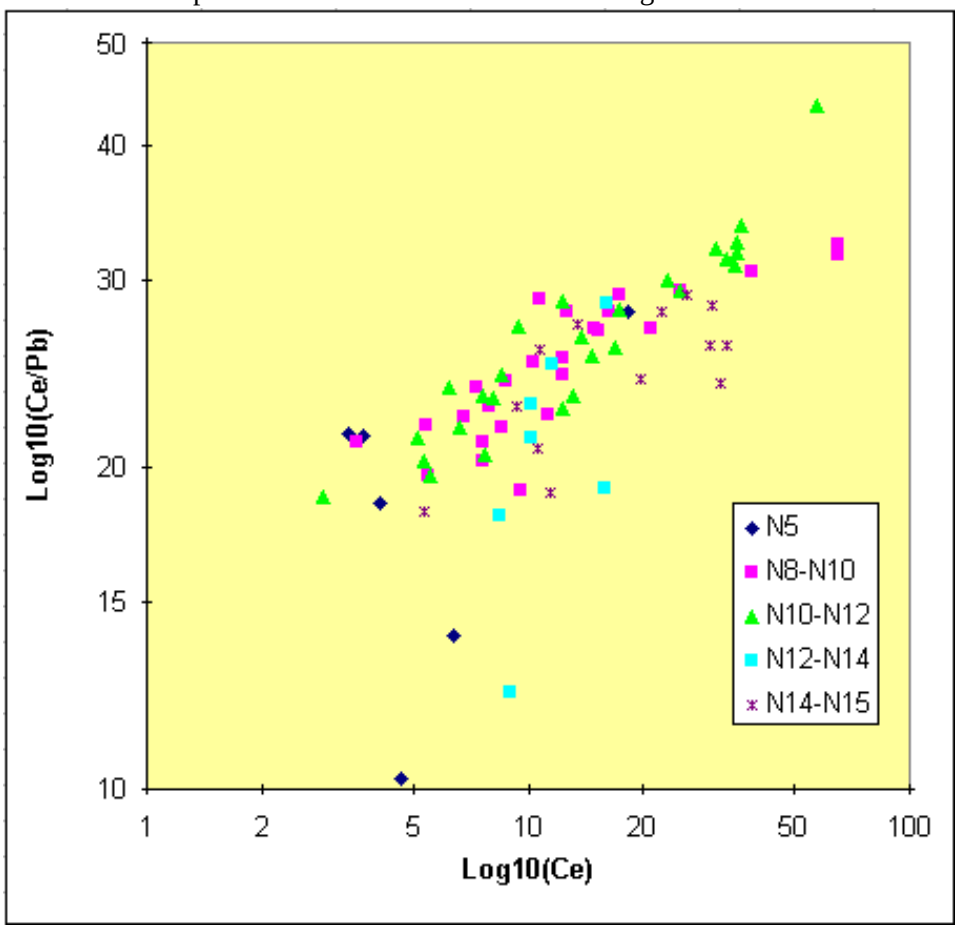
# Label Log Scale function

**Purpose:**
In Excel log scale plots, the default minimum and maximum values on axes are fixed to the integer powers of ten -- i.e., 0.001, 0.01, etc. It is desirable the maximum and minimum on an axis to be any value, e.g., 0.2, 0.6, etc.

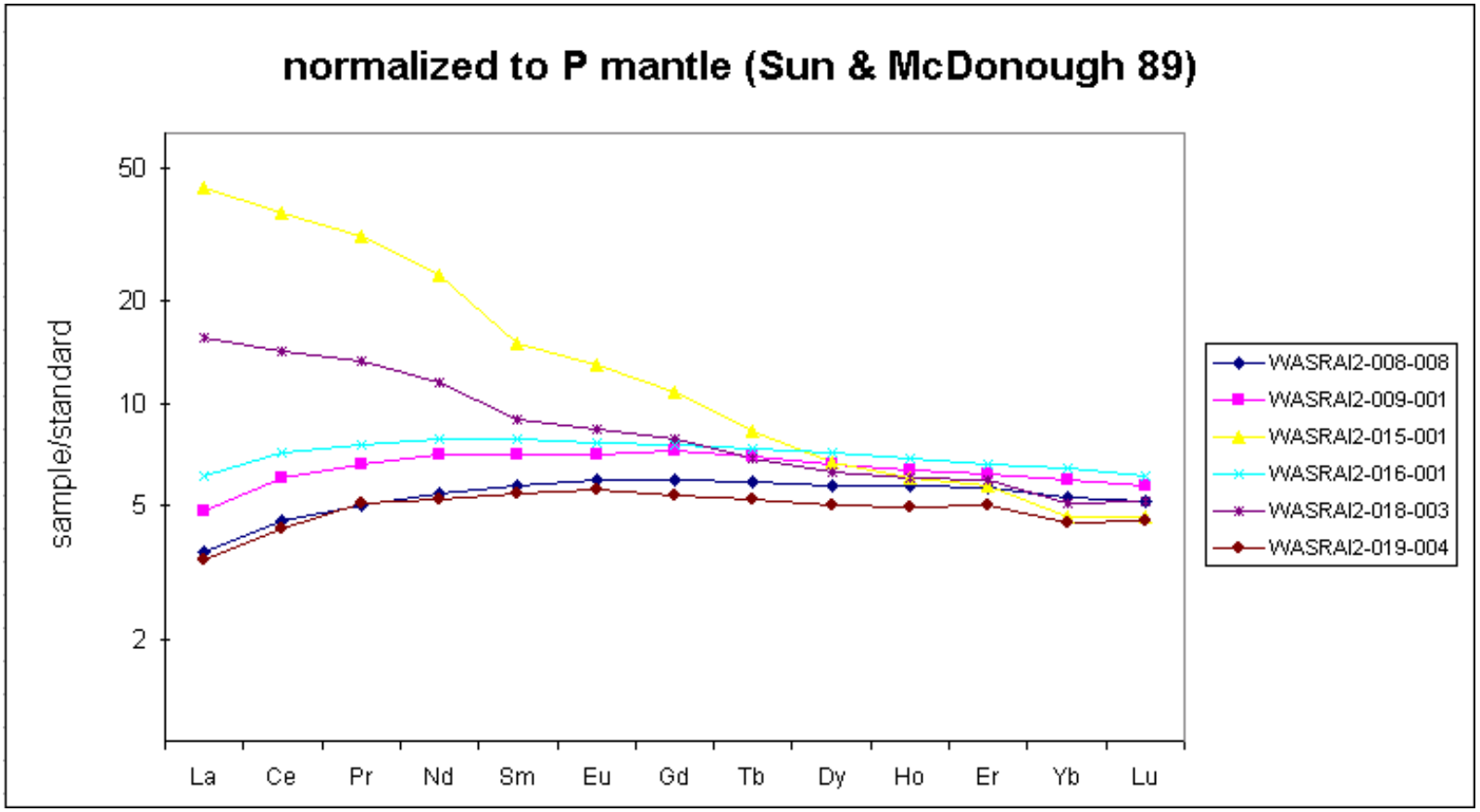
The PetroPlot “Label Log Scale” function adds flexible log-scale labels to plot where log values have been calculated on a separate column on the worksheet.

It works for not only XY Scatter chart, but also line chart or bar chart etc.

Here is an example of XY Scatter chart with Label Log Scale.




Here is an example of line chart with Label Log Scale.




**Start:**
Calculate log10 values on worksheet.

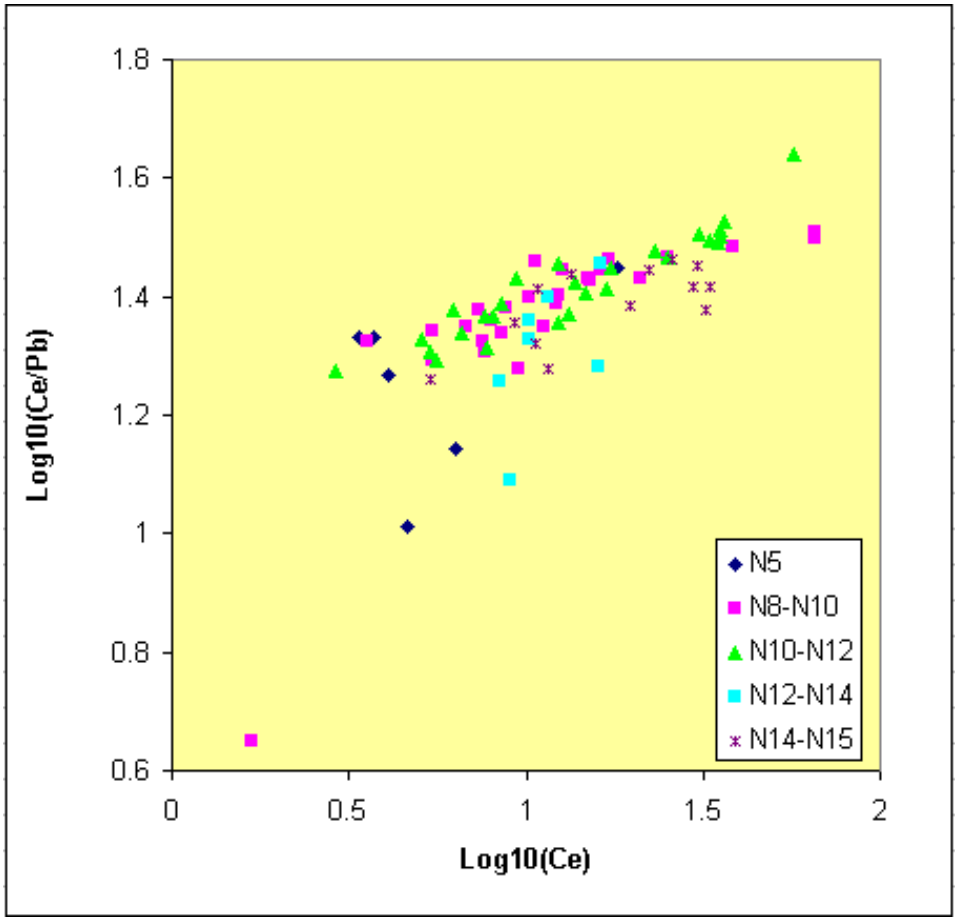
Microsoft Excel - PetroPlotExampleData.xls

File Edit View Insert Format Tools Data PetroPlot

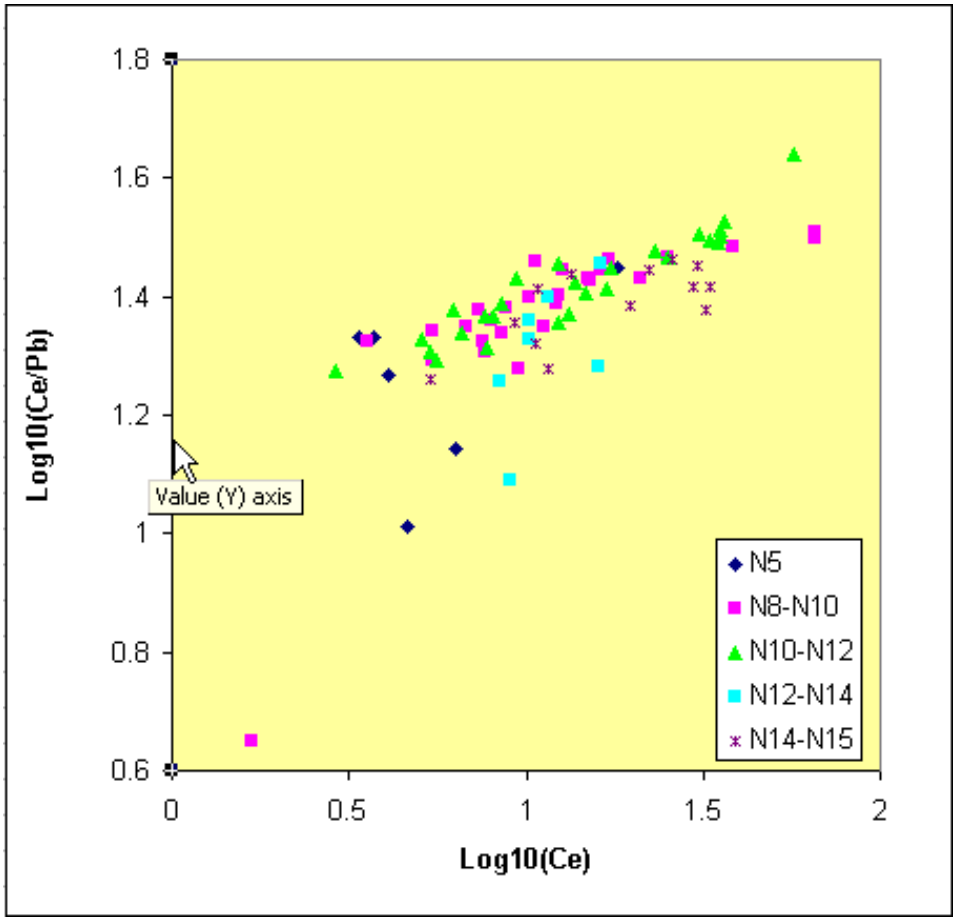
BF2 = =LOG10(BE2)

| | BD | BE | BF | BG |
|---|---|---|---|---|
| 1 | K2O/TiO2 | Ce/Pb | Log10(Ce/Pb) | Log10(Ce) |
| 2 | 0.039604 | 10.242826 | 1.010419779 | 0.666518 |
| 3 | 0.0416667 | 13.938731 | 1.144223232 | 0.8041394 |
| 4 | 0.032967 | 21.528662 | 1.333017048 | 0.5289167 |
| 5 | 0.0444444 | 21.453488 | 1.331497919 | 0.5670264 |
| 6 | 0.1666667 | 18.513514 | 1.267488847 | 0.6138418 |
| 7 | 0.1630435 | 27.987711 | 1.446967384 | 1.2605484 |
| 8 | 0.047619 | 21.130952 | 1.324919071 | 0.5502284 |
| 9 | 0.0728477 | 22.853026 | 1.358943713 | 0.8992732 |
| 10 | 0.0743243 | 28.733154 | 1.458383295 | 1.0277572 |
| 11 | 0.1008772 | 27.928082 | 1.446041114 | 1.212454 |

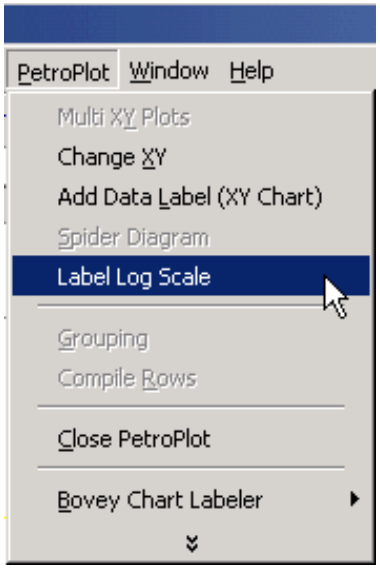
Make linear scale chart using the log10 values.



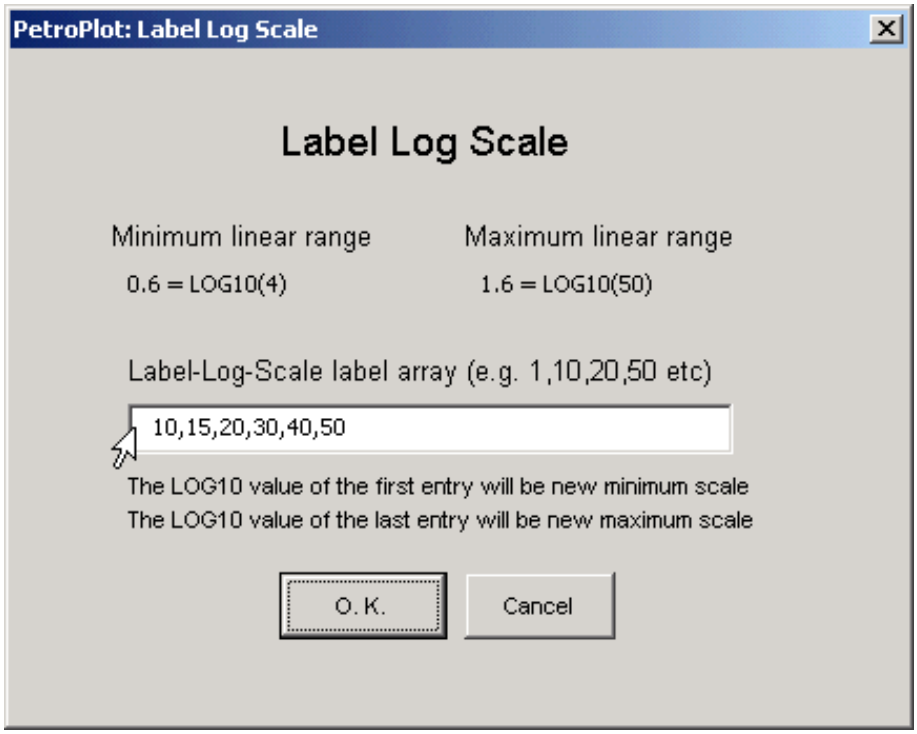

**Step 1:**
Select the axis you want to label.




Click PetroPlot --> Label Log Scale.

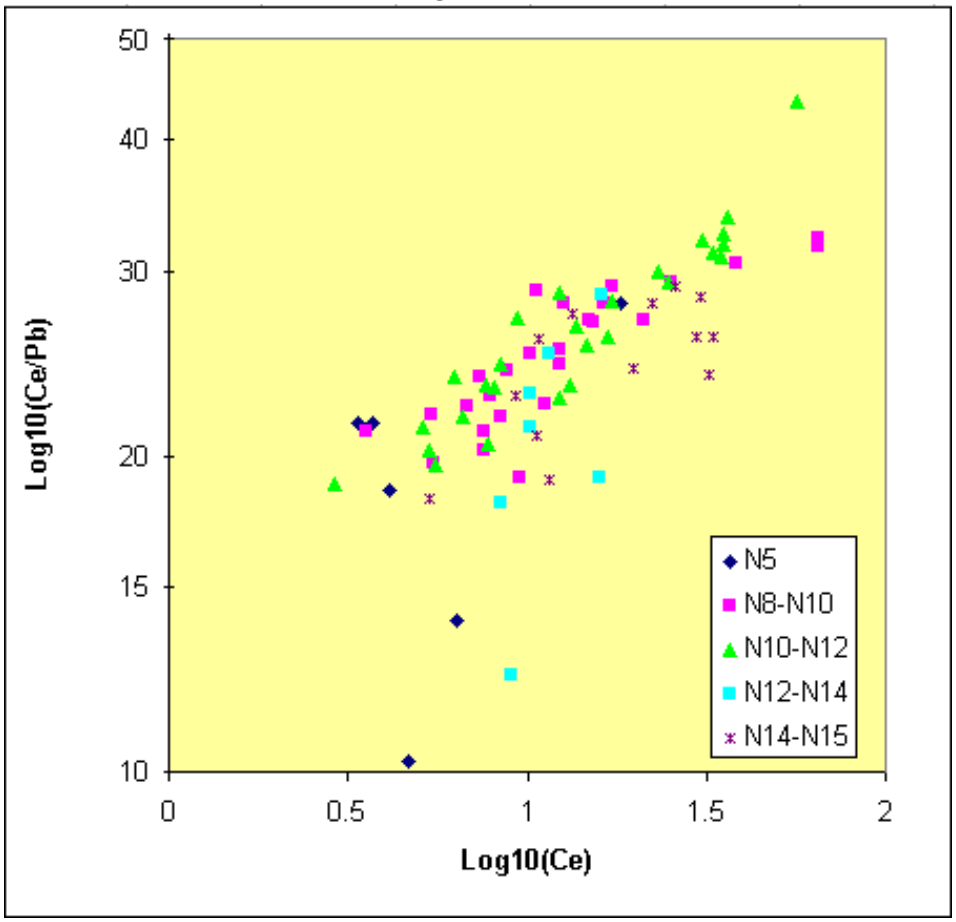



**Step 2:**
Type the log-scale labels.
The selected axis will be rescaled based on your input.




Click "O.K." button.

Notice the labels for Y axis are changed.




**Repeat for each axis you want to add log-scale-Label.**

*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Tutorial: Label Log Scale function**

# PetroPlot Tutorial

# Clear Values function

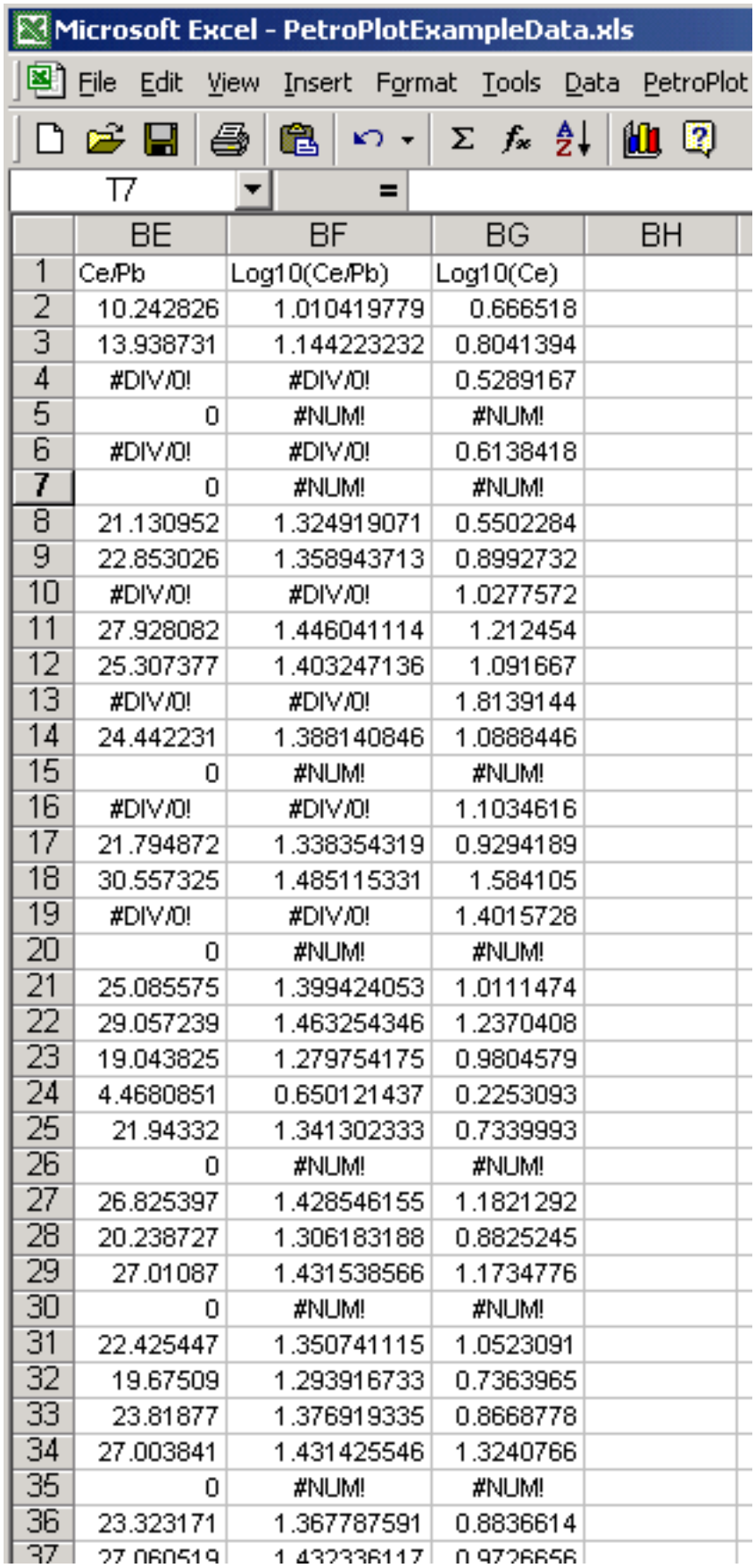
**Purpose:**
An Excel calculation may return zeros or non-numeric values (e.g. "#VALUE!" or "#DIV/0!").

Aggregate functions such as average or standard deviation cannot be applied when the selection contains non-numeric cells.

To manually delete these bad cells can be time consuming if the data volume is large.

The PetroPlot function automates the cleaning process by making the meaningless cells empty.

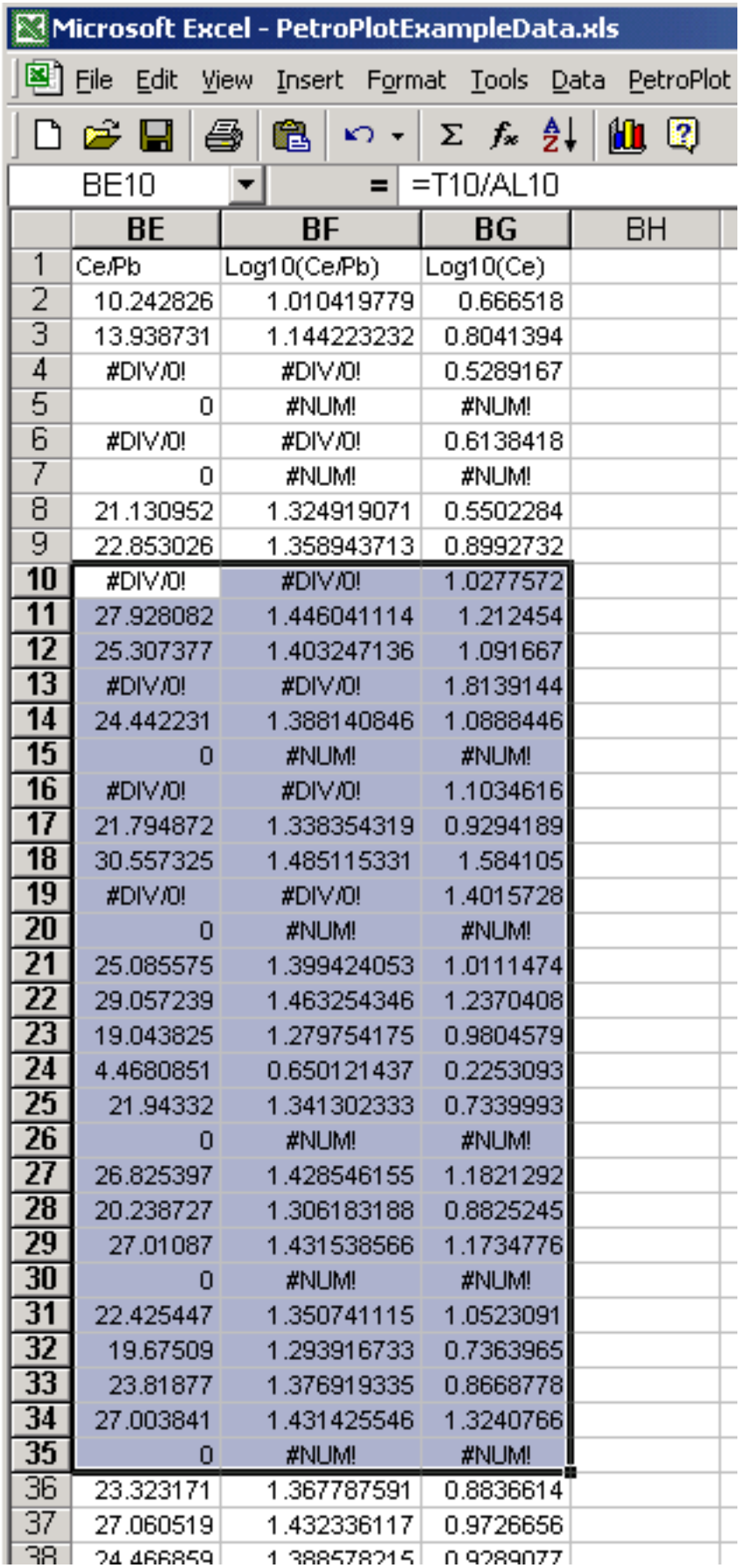
Here is an example of a worksheet which contains non-numeric values & zeros.




| | BE | BF | BG | BH |
|---|---|---|---|---|
| 1 | Ce/Pb | Log10(Ce/Pb) | Log10(Ce) | |
| 2 | 10.242826 | 1.010419779 | 0.666518 | |
| 3 | 13.938731 | 1.144223232 | 0.8041394 | |
| 4 | #DIV/0! | #DIV/0! | 0.5289167 | |
| 5 | 0 | #NUM! | #NUM! | |
| 6 | #DIV/0! | #DIV/0! | 0.6138418 | |
| 7 | 0 | #NUM! | #NUM! | |
| 8 | 21.130952 | 1.324919071 | 0.5502284 | |
| 9 | 22.853026 | 1.358943713 | 0.8992732 | |
| 10 | #DIV/0! | #DIV/0! | 1.0277572 | |
| 11 | 27.928082 | 1.446041114 | 1.212454 | |
| 12 | 25.307377 | 1.403247136 | 1.091667 | |
| 13 | #DIV/0! | #DIV/0! | 1.8139144 | |
| 14 | 24.442231 | 1.388140846 | 1.0888446 | |
| 15 | 0 | #NUM! | #NUM! | |
| 16 | #DIV/0! | #DIV/0! | 1.1034616 | |
| 17 | 21.794872 | 1.338354319 | 0.9294189 | |
| 18 | 30.557325 | 1.485115331 | 1.584105 | |
| 19 | #DIV/0! | #DIV/0! | 1.4015728 | |
| 20 | 0 | #NUM! | #NUM! | |
| 21 | 25.085575 | 1.399424053 | 1.0111474 | |
| 22 | 29.057239 | 1.463254346 | 1.2370408 | |
| 23 | 19.043825 | 1.279754175 | 0.9804579 | |
| 24 | 4.4680851 | 0.650121437 | 0.2253093 | |
| 25 | 21.94332 | 1.341302333 | 0.7339993 | |
| 26 | 0 | #NUM! | #NUM! | |
| 27 | 26.825397 | 1.428546155 | 1.1821292 | |
| 28 | 20.238727 | 1.306183188 | 0.8825245 | |
| 29 | 27.01087 | 1.431538566 | 1.1734776 | |
| 30 | 0 | #NUM! | #NUM! | |
| 31 | 22.425447 | 1.350741115 | 1.0523091 | |
| 32 | 19.67509 | 1.293916733 | 0.7363965 | |
| 33 | 23.81877 | 1.376919335 | 0.8668778 | |
| 34 | 27.003841 | 1.431425546 | 1.3240766 | |
| 35 | 0 | #NUM! | #NUM! | |
| 36 | 23.323171 | 1.367787591 | 0.8836614 | |
| 37 | 27.060519 | 1.432336117 | 0.9726656 | |

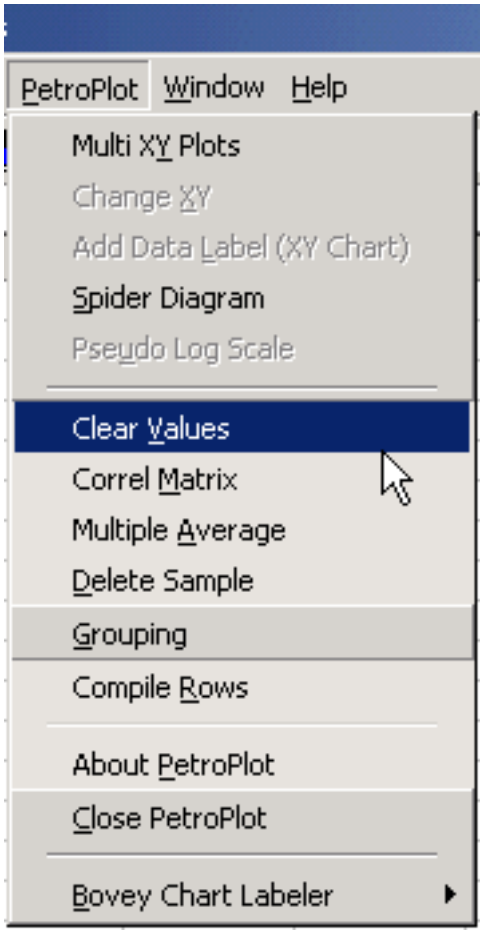
**Start:**

Select a range on the worksheet.



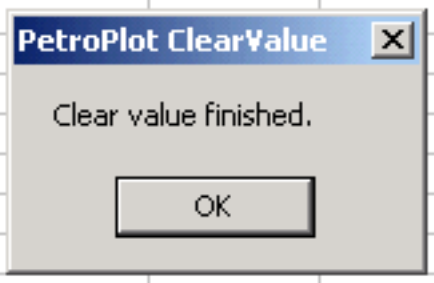

| | BE | BF | BG | BH |
|---|---|---|---|---|
| 1 | Ce/Pb | Log10(Ce/Pb) | Log10(Ce) | |
| 2 | 10.242826 | 1.010419779 | 0.666518 | |
| 3 | 13.938731 | 1.144223232 | 0.8041394 | |
| 4 | #DIV/0! | #DIV/0! | 0.5289167 | |
| 5 | 0 | #NUM! | #NUM! | |
| 6 | #DIV/0! | #DIV/0! | 0.6138418 | |
| 7 | 0 | #NUM! | #NUM! | |
| 8 | 21.130952 | 1.324919071 | 0.5502284 | |
| 9 | 22.853026 | 1.358943713 | 0.8992732 | |
| 10 | #DIV/0! | #DIV/0! | 1.0277572 | |
| 11 | 27.928082 | 1.446041114 | 1.212454 | |
| 12 | 25.307377 | 1.403247136 | 1.091667 | |
| 13 | #DIV/0! | #DIV/0! | 1.8139144 | |
| 14 | 24.442231 | 1.388140846 | 1.0888446 | |
| 15 | 0 | #NUM! | #NUM! | |
| 16 | #DIV/0! | #DIV/0! | 1.1034616 | |
| 17 | 21.794872 | 1.338354319 | 0.9294189 | |
| 18 | 30.557325 | 1.485115331 | 1.584105 | |
| 19 | #DIV/0! | #DIV/0! | 1.4015728 | |
| 20 | 0 | #NUM! | #NUM! | |
| 21 | 25.085575 | 1.399424053 | 1.0111474 | |
| 22 | 29.057239 | 1.463254346 | 1.2370408 | |
| 23 | 19.043825 | 1.279754175 | 0.9804579 | |
| 24 | 4.4680851 | 0.650121437 | 0.2253093 | |
| 25 | 21.94332 | 1.341302333 | 0.7339993 | |
| 26 | 0 | #NUM! | #NUM! | |
| 27 | 26.825397 | 1.428546155 | 1.1821292 | |
| 28 | 20.238727 | 1.306183188 | 0.8825245 | |
| 29 | 27.01087 | 1.431538566 | 1.1734776 | |
| 30 | 0 | #NUM! | #NUM! | |
| 31 | 22.425447 | 1.350741115 | 1.0523091 | |
| 32 | 19.67509 | 1.293916733 | 0.7363965 | |
| 33 | 23.81877 | 1.376919335 | 0.8668778 | |
| 34 | 27.003841 | 1.431425546 | 1.3240766 | |
| 35 | 0 | #NUM! | #NUM! | |
| 36 | 23.323171 | 1.367787591 | 0.8836614 | |
| 37 | 27.060519 | 1.432336117 | 0.9726656 | |
| 38 | 24.466859 | 1.388578215 | 0.9289077 | |

**Click PetroPlot --> Clear Values.**




**Result:**

| | BE | BF | BG | BH | BI | BJ |
|---|---|---|---|---|---|---|
| 1 | Ce/Pb | Log10(Ce/Pb) | Log10(Ce) | | | |
| 2 | 10.242826 | 1.010419779 | 0.666518 | | | |
| 3 | 13.938731 | 1.144223232 | 0.8041394 | | | |
| 4 | #DIV/0! | #DIV/0! | 0.5289167 | | | |
| 5 | 0 | #NUM! | #NUM! | | | |
| 6 | #DIV/0! | #DIV/0! | 0.6138418 | | | |
| 7 | 0 | #NUM! | #NUM! | | | |
| 8 | 21.130952 | 1.324919071 | 0.5502284 | | | |
| 9 | 22.853026 | 1.358943713 | 0.8992732 | | | |
| 10 | | | 1.0277572 | | | |
| 11 | 27.928082 | 1.446041114 | 1.212454 | | | |
| 12 | 25.307377 | 1.403247136 | 1.091667 | | | |
| 13 | | | 1.8139144 | | | |
| 14 | 24.442231 | 1.388140846 | 1.0888446 | | | |
| 15 | | | | | | |
| 16 | | | 1.1034616 | | | |
| 17 | 21.794872 | 1.338354319 | 0.9294189 | | | |
| 18 | 30.557325 | 1.485115331 | 1.584105 | | | |
| 19 | | | 1.4015728 | | | |
| 20 | | | | | | |
| 21 | 25.085575 | 1.399424053 | 1.0111474 | | | |
| 22 | 29.057239 | 1.463254346 | 1.2370408 | | | |
| 23 | 19.043825 | 1.279754175 | 0.9804579 | | | |
| 24 | 4.4680851 | 0.650121437 | 0.2253093 | | | |
| 25 | 21.94332 | 1.341302333 | 0.7339993 | | | |
| 26 | | | | | | |
| 27 | 26.825397 | 1.428546155 | 1.1821292 | | | |
| 28 | 20.238727 | 1.306183188 | 0.8825245 | | | |
| 29 | 27.01087 | 1.431538566 | 1.1734776 | | | |
| 30 | | | | | | |
| 31 | 22.425447 | 1.350741115 | 1.0523091 | | | |
| 32 | 19.67509 | 1.293916733 | 0.7363965 | | | |
| 33 | 23.81877 | 1.376919335 | 0.8668778 | | | |
| 34 | 27.003841 | 1.431425546 | 1.3240766 | | | |
| 35 | | | | | | |
| 36 | 23.323171 | 1.367787591 | 0.8836614 | | | |
| 37 | 27.060519 | 1.432336117 | 0.9726656 | | | |




*Last modified 05/30/2002, Yong Jun Su*

This line marks the end of **PetroPlot Tutorial: Clear Values function**

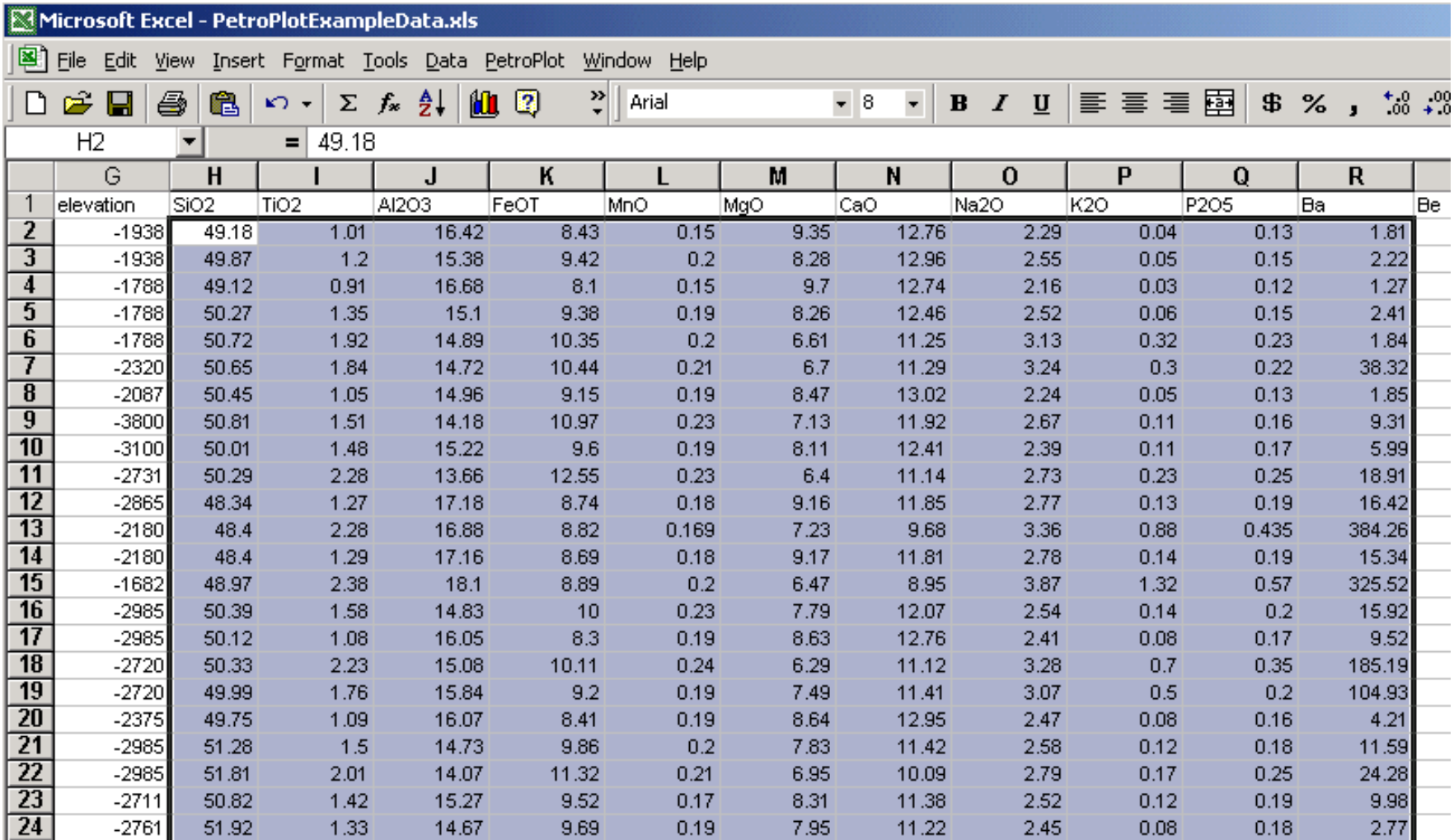
# PetroPlot Tutorial

# Correl Matrix function

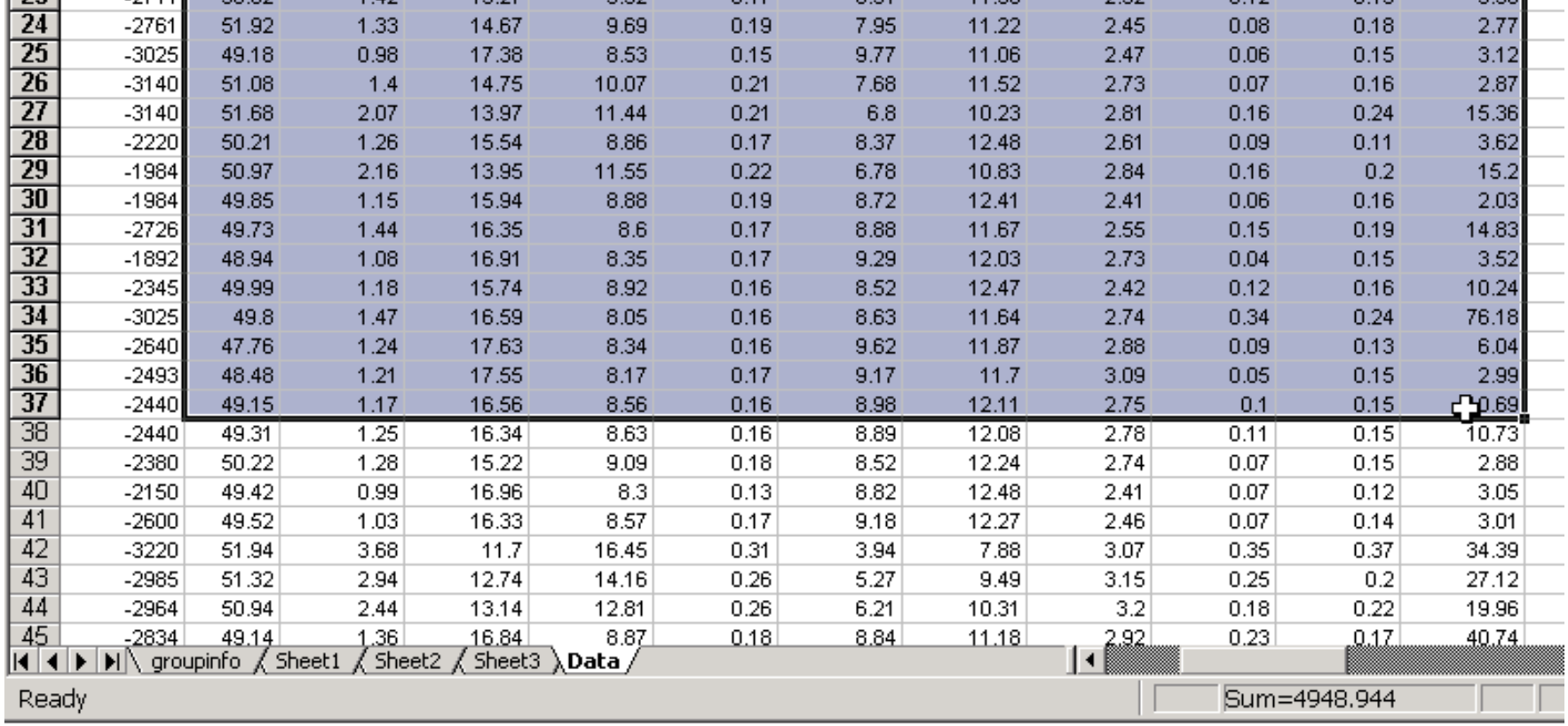
**Purpose:**
This function calculates a correlation matrix for a selected data area. The output is sent to a new worksheet.

The result is similar to the correlation function in Excel Add-In “Data Analyses” tool package. The advantage of this PetroPlot function is that it outputs formulas instead of calculated values. If the source data are modified, the correlation matrix generated by PetroPlot will be automatically updated.

**Start:**
Select a range on the worksheet.



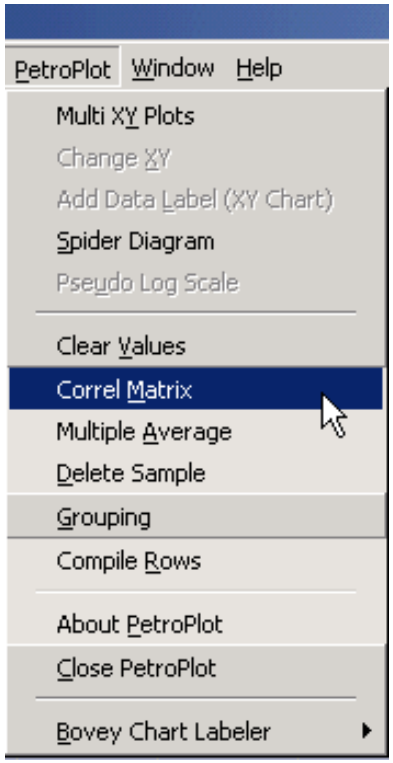

| | G | H | I | J | K | L | M | N | O | P | Q | R | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | elevation | SiO2 | TiO2 | Al2O3 | FeOT | MnO | MgO | CaO | Na2O | K2O | P2O5 | Ba | Be |
| 2 | -1938 | 49.18 | 1.01 | 16.42 | 8.43 | 0.15 | 9.35 | 12.76 | 2.29 | 0.04 | 0.13 | 1.81 | |
| 3 | -1938 | 49.87 | 1.2 | 15.38 | 9.42 | 0.2 | 8.28 | 12.96 | 2.55 | 0.05 | 0.15 | 2.22 | |
| 4 | -1788 | 49.12 | 0.91 | 16.68 | 8.1 | 0.15 | 9.7 | 12.74 | 2.16 | 0.03 | 0.12 | 1.27 | |
| 5 | -1788 | 50.27 | 1.35 | 15.1 | 9.38 | 0.19 | 8.26 | 12.46 | 2.52 | 0.06 | 0.15 | 2.41 | |
| 6 | -1788 | 50.72 | 1.92 | 14.89 | 10.35 | 0.2 | 6.61 | 11.25 | 3.13 | 0.32 | 0.23 | 1.84 | |
| 7 | -2320 | 50.65 | 1.84 | 14.72 | 10.44 | 0.21 | 6.7 | 11.29 | 3.24 | 0.3 | 0.22 | 38.32 | |
| 8 | -2087 | 50.45 | 1.05 | 14.96 | 9.15 | 0.19 | 8.47 | 13.02 | 2.24 | 0.05 | 0.13 | 1.85 | |
| 9 | -3800 | 50.81 | 1.51 | 14.18 | 10.97 | 0.23 | 7.13 | 11.92 | 2.67 | 0.11 | 0.16 | 9.31 | |
| 10 | -3100 | 50.01 | 1.48 | 15.22 | 9.6 | 0.19 | 8.11 | 12.41 | 2.39 | 0.11 | 0.17 | 5.99 | |
| 11 | -2731 | 50.29 | 2.28 | 13.66 | 12.55 | 0.23 | 6.4 | 11.14 | 2.73 | 0.23 | 0.25 | 18.91 | |
| 12 | -2865 | 48.34 | 1.27 | 17.18 | 8.74 | 0.18 | 9.16 | 11.85 | 2.77 | 0.13 | 0.19 | 16.42 | |
| 13 | -2180 | 48.4 | 2.28 | 16.88 | 8.82 | 0.169 | 7.23 | 9.68 | 3.36 | 0.88 | 0.435 | 384.26 | |
| 14 | -2180 | 48.4 | 1.29 | 17.16 | 8.69 | 0.18 | 9.17 | 11.81 | 2.78 | 0.14 | 0.19 | 15.34 | |
| 15 | -1682 | 48.97 | 2.38 | 18.1 | 8.89 | 0.2 | 6.47 | 8.95 | 3.87 | 1.32 | 0.57 | 325.52 | |
| 16 | -2985 | 50.39 | 1.58 | 14.83 | 10 | 0.23 | 7.79 | 12.07 | 2.54 | 0.14 | 0.2 | 15.92 | |
| 17 | -2985 | 50.12 | 1.08 | 16.05 | 8.3 | 0.19 | 8.63 | 12.76 | 2.41 | 0.08 | 0.17 | 9.52 | |
| 18 | -2720 | 50.33 | 2.23 | 15.08 | 10.11 | 0.24 | 6.29 | 11.12 | 3.28 | 0.7 | 0.35 | 185.19 | |
| 19 | -2720 | 49.99 | 1.76 | 15.84 | 9.2 | 0.19 | 7.49 | 11.41 | 3.07 | 0.5 | 0.2 | 104.93 | |
| 20 | -2375 | 49.75 | 1.09 | 16.07 | 8.41 | 0.19 | 8.64 | 12.95 | 2.47 | 0.08 | 0.16 | 4.21 | |
| 21 | -2985 | 51.28 | 1.5 | 14.73 | 9.86 | 0.2 | 7.83 | 11.42 | 2.58 | 0.12 | 0.18 | 11.59 | |
| 22 | -2985 | 51.81 | 2.01 | 14.07 | 11.32 | 0.21 | 6.95 | 10.09 | 2.79 | 0.17 | 0.25 | 24.28 | |
| 23 | -2711 | 50.82 | 1.42 | 15.27 | 9.52 | 0.17 | 8.31 | 11.38 | 2.52 | 0.12 | 0.19 | 9.98 | |
| 24 | -2761 | 51.92 | 1.33 | 14.67 | 9.69 | 0.19 | 7.95 | 11.22 | 2.45 | 0.08 | 0.18 | 2.77 | |



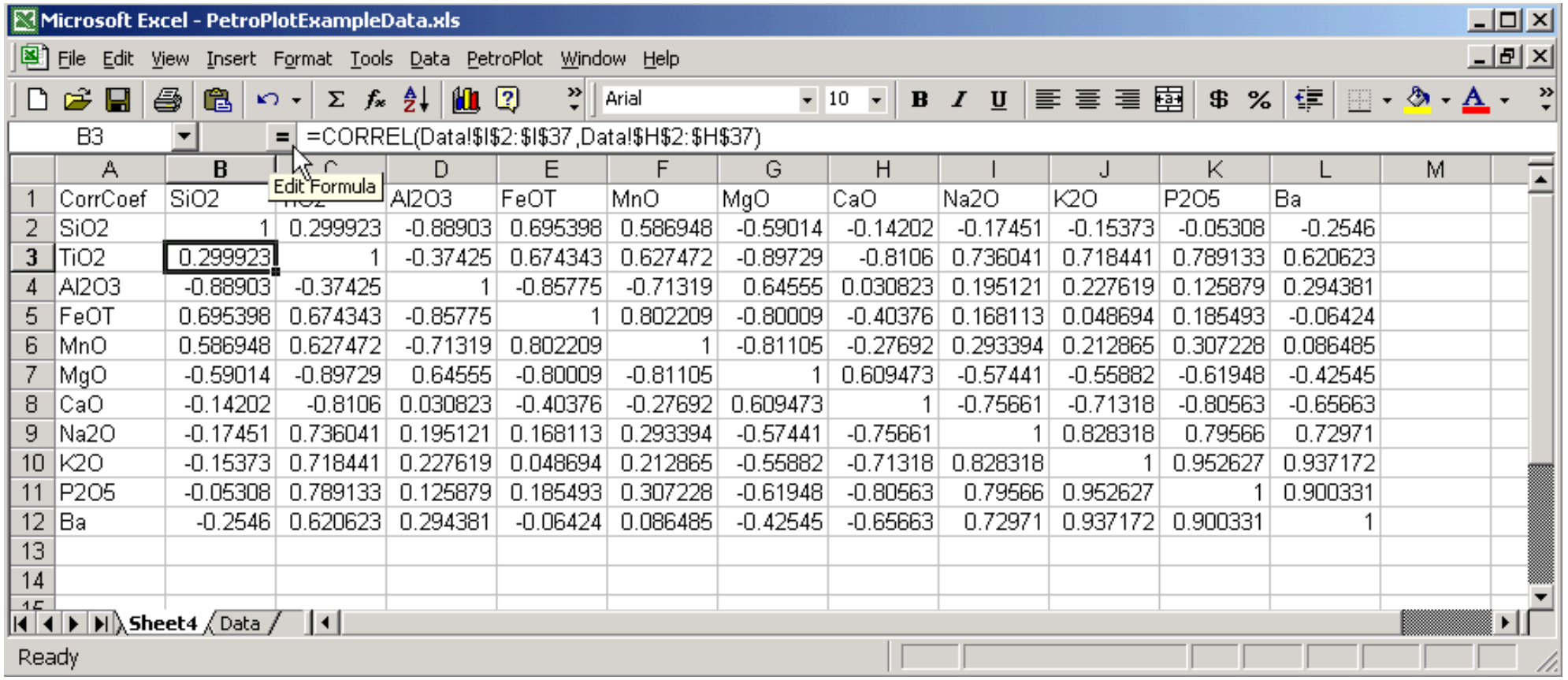
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | -2761 | 51.92 | 1.33 | 14.67 | 9.69 | 0.19 | 7.95 | 11.22 | 2.45 | 0.08 | 0.18 | 2.77 |
| 25 | -3025 | 49.18 | 0.98 | 17.38 | 8.53 | 0.15 | 9.77 | 11.06 | 2.47 | 0.06 | 0.15 | 3.12 |
| 26 | -3140 | 51.08 | 1.4 | 14.75 | 10.07 | 0.21 | 7.68 | 11.52 | 2.73 | 0.07 | 0.16 | 2.87 |
| 27 | -3140 | 51.68 | 2.07 | 13.97 | 11.44 | 0.21 | 6.8 | 10.23 | 2.81 | 0.16 | 0.24 | 15.36 |
| 28 | -2220 | 50.21 | 1.26 | 15.54 | 8.86 | 0.17 | 8.37 | 12.48 | 2.61 | 0.09 | 0.11 | 3.62 |
| 29 | -1984 | 50.97 | 2.16 | 13.95 | 11.55 | 0.22 | 6.78 | 10.83 | 2.84 | 0.16 | 0.2 | 15.2 |
| 30 | -1984 | 49.85 | 1.15 | 15.94 | 8.88 | 0.19 | 8.72 | 12.41 | 2.41 | 0.06 | 0.16 | 2.03 |
| 31 | -2726 | 49.73 | 1.44 | 16.35 | 8.6 | 0.17 | 8.88 | 11.67 | 2.55 | 0.15 | 0.19 | 14.83 |
| 32 | -1892 | 48.94 | 1.08 | 16.91 | 8.35 | 0.17 | 9.29 | 12.03 | 2.73 | 0.04 | 0.15 | 3.52 |
| 33 | -2345 | 49.99 | 1.18 | 15.74 | 8.92 | 0.16 | 8.52 | 12.47 | 2.42 | 0.12 | 0.16 | 10.24 |
| 34 | -3025 | 49.8 | 1.47 | 16.59 | 8.05 | 0.16 | 8.63 | 11.64 | 2.74 | 0.34 | 0.24 | 76.18 |
| 35 | -2640 | 47.76 | 1.24 | 17.63 | 8.34 | 0.16 | 9.62 | 11.87 | 2.88 | 0.09 | 0.13 | 6.04 |
| 36 | -2493 | 48.48 | 1.21 | 17.55 | 8.17 | 0.17 | 9.17 | 11.7 | 3.09 | 0.05 | 0.15 | 2.99 |
| 37 | -2440 | 49.15 | 1.17 | 16.56 | 8.56 | 0.16 | 8.98 | 12.11 | 2.75 | 0.1 | 0.15 | 0.69 |
| 38 | -2440 | 49.31 | 1.25 | 16.34 | 8.63 | 0.16 | 8.89 | 12.08 | 2.78 | 0.11 | 0.15 | 10.73 |
| 39 | -2380 | 50.22 | 1.28 | 15.22 | 9.09 | 0.18 | 8.52 | 12.24 | 2.74 | 0.07 | 0.15 | 2.88 |
| 40 | -2150 | 49.42 | 0.99 | 16.96 | 8.3 | 0.13 | 8.82 | 12.48 | 2.41 | 0.07 | 0.12 | 3.05 |
| 41 | -2600 | 49.52 | 1.03 | 16.33 | 8.57 | 0.17 | 9.18 | 12.27 | 2.46 | 0.07 | 0.14 | 3.01 |
| 42 | -3220 | 51.94 | 3.68 | 11.7 | 16.45 | 0.31 | 3.94 | 7.88 | 3.07 | 0.35 | 0.37 | 34.39 |
| 43 | -2985 | 51.32 | 2.94 | 12.74 | 14.16 | 0.26 | 5.27 | 9.49 | 3.15 | 0.25 | 0.2 | 27.12 |
| 44 | -2964 | 50.94 | 2.44 | 13.14 | 12.81 | 0.26 | 6.21 | 10.31 | 3.2 | 0.18 | 0.22 | 19.96 |
| 45 | -2834 | 49.14 | 1.36 | 16.84 | 8.87 | 0.18 | 8.84 | 11.18 | 2.92 | 0.23 | 0.17 | 40.74 |



**Click PetroPlot --> Correl Matrix.**




**Result:** (Notice that the formula instead of a value is entered in a cell.)




| | A | B | C | D | E | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CorrCoef | SiO2 | TiO2 | Al2O3 | FeOT | MnO | MgO | CaO | Na2O | K2O | P2O5 | Ba | |
| 2 | SiO2 | 1 | 0.299923 | -0.88903 | 0.695398 | 0.586948 | -0.59014 | -0.14202 | -0.17451 | -0.15373 | -0.05308 | -0.2546 | |
| 3 | TiO2 | 0.299923 | 1 | -0.37425 | 0.674343 | 0.627472 | -0.89729 | -0.8106 | 0.736041 | 0.718441 | 0.789133 | 0.620623 | |
| 4 | Al2O3 | -0.88903 | -0.37425 | 1 | -0.85775 | -0.71319 | 0.64555 | 0.030823 | 0.195121 | 0.227619 | 0.125879 | 0.294381 | |
| 5 | FeOT | 0.695398 | 0.674343 | -0.85775 | 1 | 0.802209 | -0.80009 | -0.40376 | 0.168113 | 0.048694 | 0.185493 | -0.06424 | |
| 6 | MnO | 0.586948 | 0.627472 | -0.71319 | 0.802209 | 1 | -0.81105 | -0.27692 | 0.293394 | 0.212865 | 0.307228 | 0.086485 | |
| 7 | MgO | -0.59014 | -0.89729 | 0.64555 | -0.80009 | -0.81105 | 1 | 0.609473 | -0.57441 | -0.55882 | -0.61948 | -0.42545 | |
| 8 | CaO | -0.14202 | -0.8106 | 0.030823 | -0.40376 | -0.27692 | 0.609473 | 1 | -0.75661 | -0.71318 | -0.80563 | -0.65663 | |
| 9 | Na2O | -0.17451 | 0.736041 | 0.195121 | 0.168113 | 0.293394 | -0.57441 | -0.75661 | 1 | 0.828318 | 0.79566 | 0.72971 | |
| 10 | K2O | -0.15373 | 0.718441 | 0.227619 | 0.048694 | 0.212865 | -0.55882 | -0.71318 | 0.828318 | 1 | 0.952627 | 0.937172 | |
| 11 | P2O5 | -0.05308 | 0.789133 | 0.125879 | 0.185493 | 0.307228 | -0.61948 | -0.80563 | 0.79566 | 0.952627 | 1 | 0.900331 | |
| 12 | Ba | -0.2546 | 0.620623 | 0.294381 | -0.06424 | 0.086485 | -0.42545 | -0.65663 | 0.72971 | 0.937172 | 0.900331 | 1 | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |

*Last modified 05/30/2002, Yong Jun Su*

This line marks the end of **PetroPlot Tutorial: Correl Matrix function**

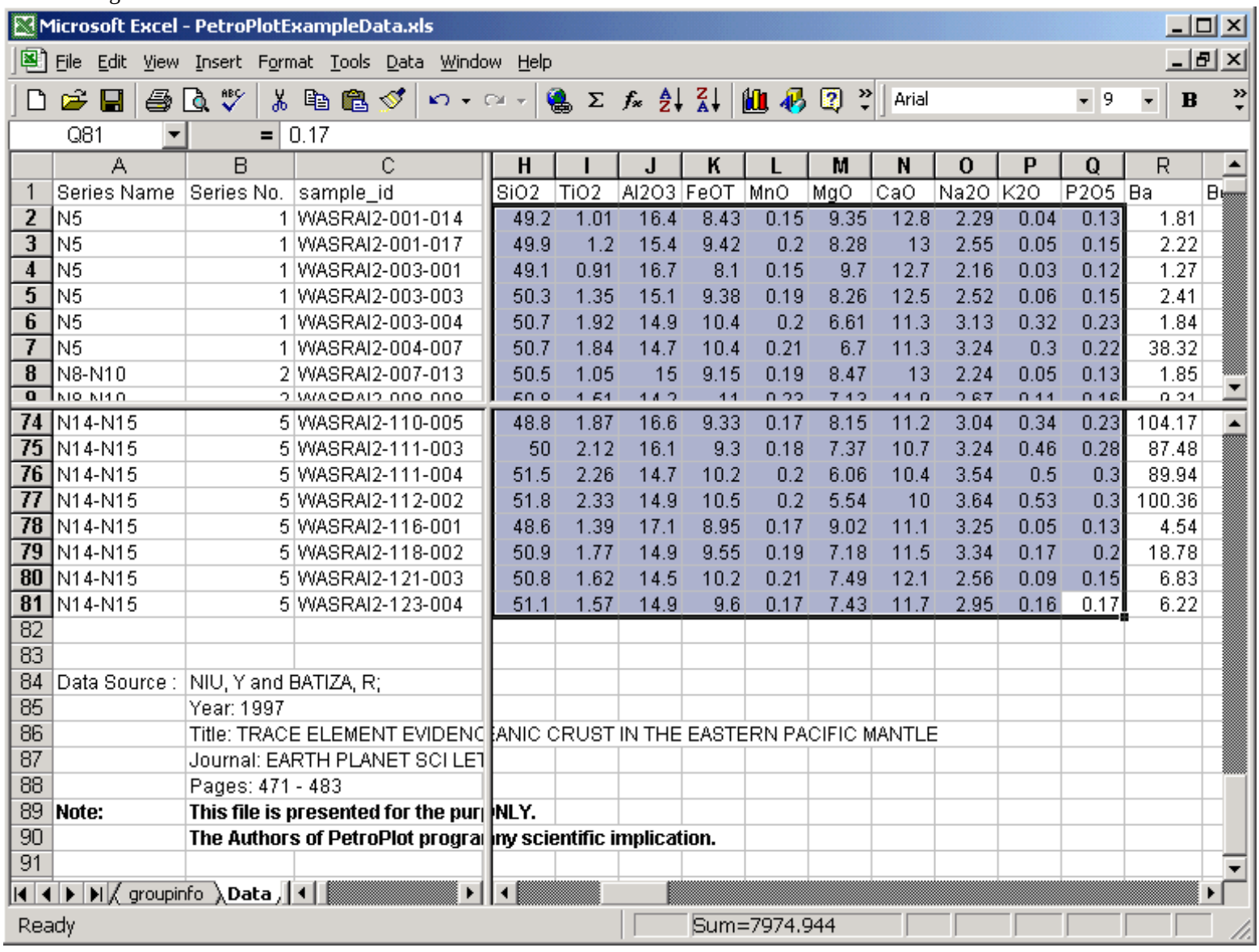
# PetroPlot Tutorial

# Multiple Average function

**Purpose:**
This function calculates multiple averages or other aggregates functions such as “STDEV”, “MIN”, “MAX” and “SUM” based on grouping classification that is planed in a separate column. Calculation formulas are exported to a new worksheet. The averages will be automatically updated once source data are modified.

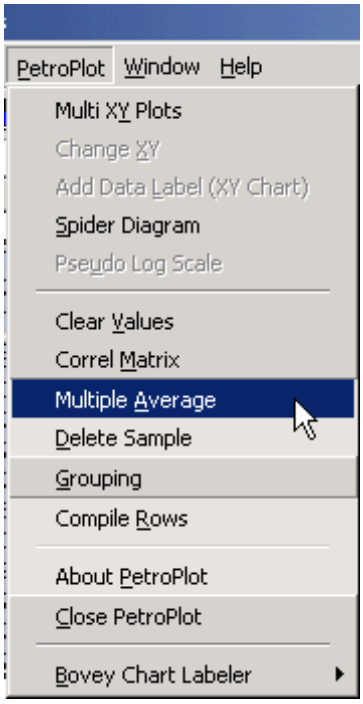
In the following example, averages will be calculated for each series based on the series name.

**Start:**
Select a range on the worksheet.

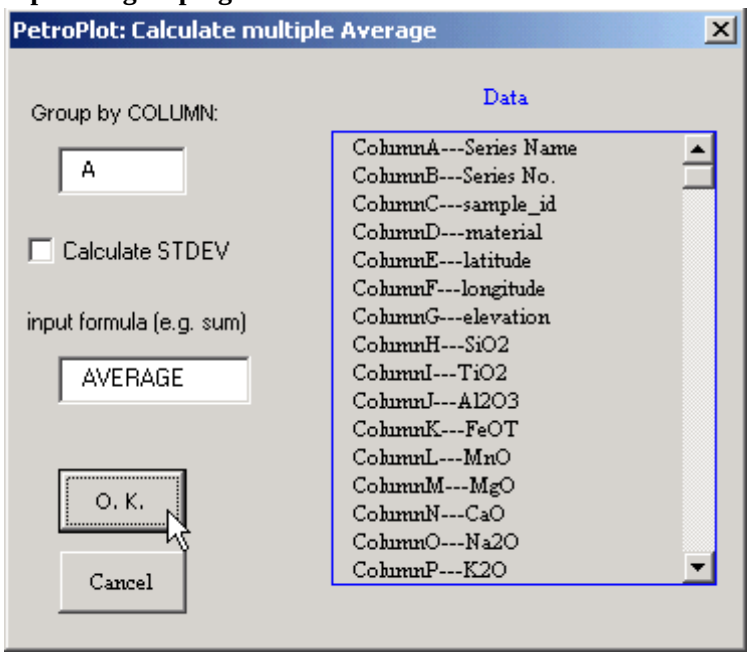



| | A | B | C | H | I | J | K | L | M | N | O | P | Q | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Series Name | Series No. | sample_id | SiO2 | TiO2 | Al2O3 | FeOT | MnO | MgO | CaO | Na2O | K2O | P2O5 | Ba |
| 2 | N5 | 1 | WASRAI2-001-014 | 49.2 | 1.01 | 16.4 | 8.43 | 0.15 | 9.35 | 12.8 | 2.29 | 0.04 | 0.13 | 1.81 |
| 3 | N5 | 1 | WASRAI2-001-017 | 49.9 | 1.2 | 15.4 | 9.42 | 0.2 | 8.28 | 13 | 2.55 | 0.05 | 0.15 | 2.22 |
| 4 | N5 | 1 | WASRAI2-003-001 | 49.1 | 0.91 | 16.7 | 8.1 | 0.15 | 9.7 | 12.7 | 2.16 | 0.03 | 0.12 | 1.27 |
| 5 | N5 | 1 | WASRAI2-003-003 | 50.3 | 1.35 | 15.1 | 9.38 | 0.19 | 8.26 | 12.5 | 2.52 | 0.06 | 0.15 | 2.41 |
| 6 | N5 | 1 | WASRAI2-003-004 | 50.7 | 1.92 | 14.9 | 10.4 | 0.2 | 6.61 | 11.3 | 3.13 | 0.32 | 0.23 | 1.84 |
| 7 | N5 | 1 | WASRAI2-004-007 | 50.7 | 1.84 | 14.7 | 10.4 | 0.21 | 6.7 | 11.3 | 3.24 | 0.3 | 0.22 | 38.32 |
| 8 | N8-N10 | 2 | WASRAI2-007-013 | 50.5 | 1.05 | 15 | 9.15 | 0.19 | 8.47 | 13 | 2.24 | 0.05 | 0.13 | 1.85 |
| 74 | N14-N15 | 5 | WASRAI2-110-005 | 48.8 | 1.87 | 16.6 | 9.33 | 0.17 | 8.15 | 11.2 | 3.04 | 0.34 | 0.23 | 104.17 |
| 75 | N14-N15 | 5 | WASRAI2-111-003 | 50 | 2.12 | 16.1 | 9.3 | 0.18 | 7.37 | 10.7 | 3.24 | 0.46 | 0.28 | 87.48 |
| 76 | N14-N15 | 5 | WASRAI2-111-004 | 51.5 | 2.26 | 14.7 | 10.2 | 0.2 | 6.06 | 10.4 | 3.54 | 0.5 | 0.3 | 89.94 |
| 77 | N14-N15 | 5 | WASRAI2-112-002 | 51.8 | 2.33 | 14.9 | 10.5 | 0.2 | 5.54 | 10 | 3.64 | 0.53 | 0.3 | 100.36 |
| 78 | N14-N15 | 5 | WASRAI2-116-001 | 48.6 | 1.39 | 17.1 | 8.95 | 0.17 | 9.02 | 11.1 | 3.25 | 0.05 | 0.13 | 4.54 |
| 79 | N14-N15 | 5 | WASRAI2-118-002 | 50.9 | 1.77 | 14.9 | 9.55 | 0.19 | 7.18 | 11.5 | 3.34 | 0.17 | 0.2 | 18.78 |
| 80 | N14-N15 | 5 | WASRAI2-121-003 | 50.8 | 1.62 | 14.5 | 10.2 | 0.21 | 7.49 | 12.1 | 2.56 | 0.09 | 0.15 | 6.83 |
| 81 | N14-N15 | 5 | WASRAI2-123-004 | 51.1 | 1.57 | 14.9 | 9.6 | 0.17 | 7.43 | 11.7 | 2.95 | 0.16 | 0.17 | 6.22 |
| 82 | | | | | | | | | | | | | | |
| 83 | | | | | | | | | | | | | | |
| 84 | Data Source : | NIU, Y and BATIZA, R; | | | | | | | | | | | | |
| 85 | | Year: 1997 | | | | | | | | | | | | |
| 86 | | Title: TRACE ELEMENT EVIDENC | | ANIC CRUST IN THE EASTERN PACIFIC MANTLE | | | | | | | | | | |
| 87 | | Journal: EARTH PLANET SCI LET | | | | | | | | | | | | |
| 88 | | Pages: 471 - 483 | | | | | | | | | | | | |
| 89 | **Note:** | **This file is presented for the pur** | | **NLY.** | | | | | | | | | | |
| 90 | | **The Authors of PetroPlot progra** | | **my scientific implication.** | | | | | | | | | | |
| 91 | | | | | | | | | | | | | | |

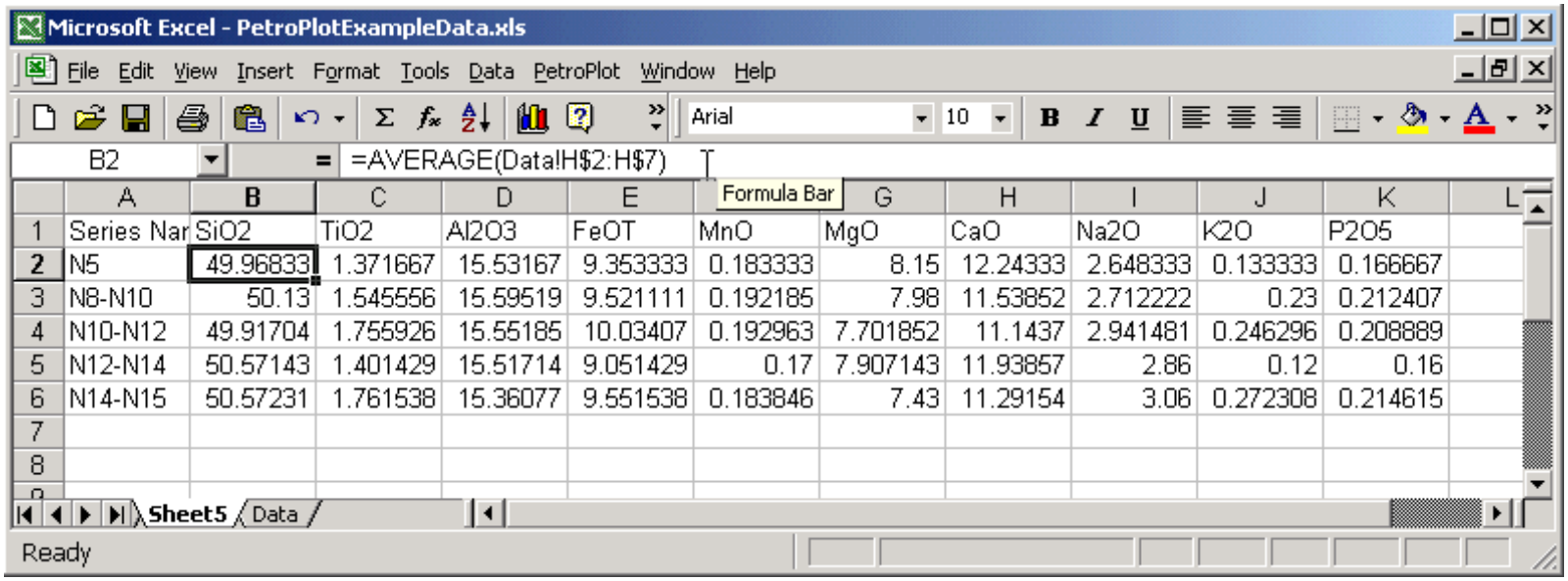
**Click PetroPlot --> Multiple Average.**




**Input the grouping column & formula:**




**Result:** (Notice that the formula instead of a value is entered in a cell.)




| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Series Nar | SiO2 | TiO2 | Al2O3 | FeOT | MnO | MgO | CaO | Na2O | K2O | P2O5 | |
| 2 | N5 | 49.96833 | 1.371667 | 15.53167 | 9.353333 | 0.183333 | 8.15 | 12.24333 | 2.648333 | 0.133333 | 0.166667 | |
| 3 | N8-N10 | 50.13 | 1.545556 | 15.59519 | 9.521111 | 0.192185 | 7.98 | 11.53852 | 2.712222 | 0.23 | 0.212407 | |
| 4 | N10-N12 | 49.91704 | 1.755926 | 15.55185 | 10.03407 | 0.192963 | 7.701852 | 11.1437 | 2.941481 | 0.246296 | 0.208889 | |
| 5 | N12-N14 | 50.57143 | 1.401429 | 15.51714 | 9.051429 | 0.17 | 7.907143 | 11.93857 | 2.86 | 0.12 | 0.16 | |
| 6 | N14-N15 | 50.57231 | 1.761538 | 15.36077 | 9.551538 | 0.183846 | 7.43 | 11.29154 | 3.06 | 0.272308 | 0.214615 | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |

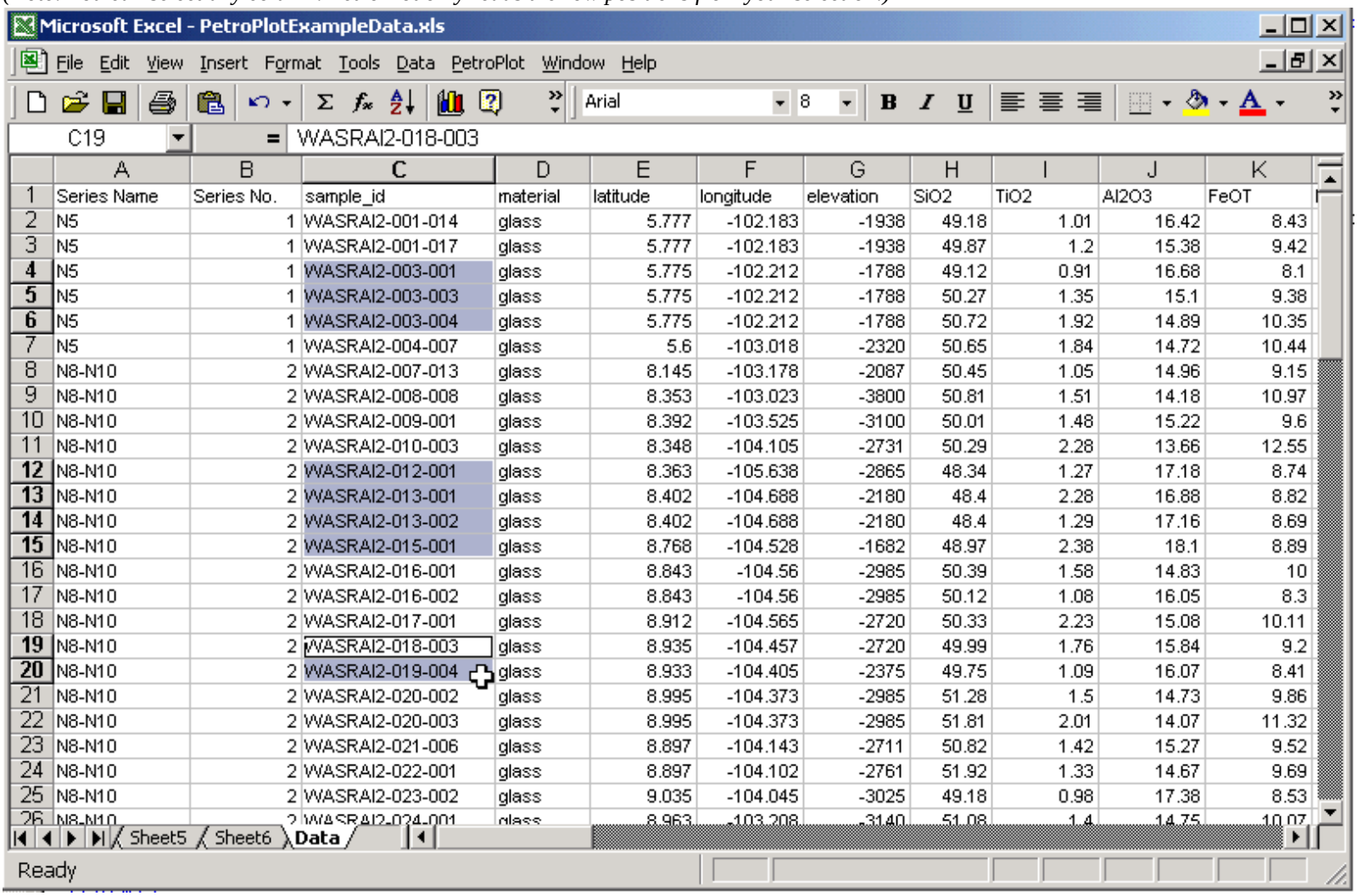
*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Tutorial: Multiple Average function**

# PetroPlot Tutorial

# Delete Sample function

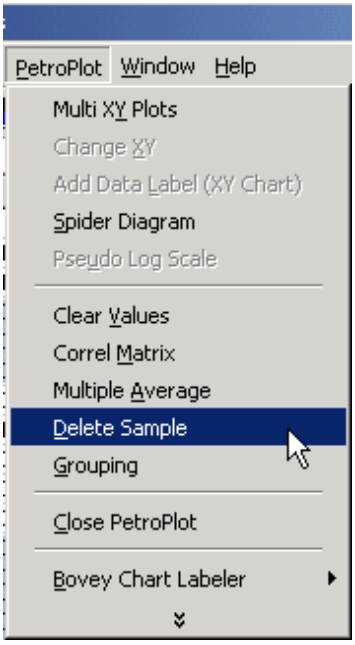
**Purpose:**
This function can delete non-consecutive rows based on customized criteria.

**Start:**
Select a set of rows on a data sheet.
*(Note: You can select any column. PetroPlot only reads the row positions from your selection.)*

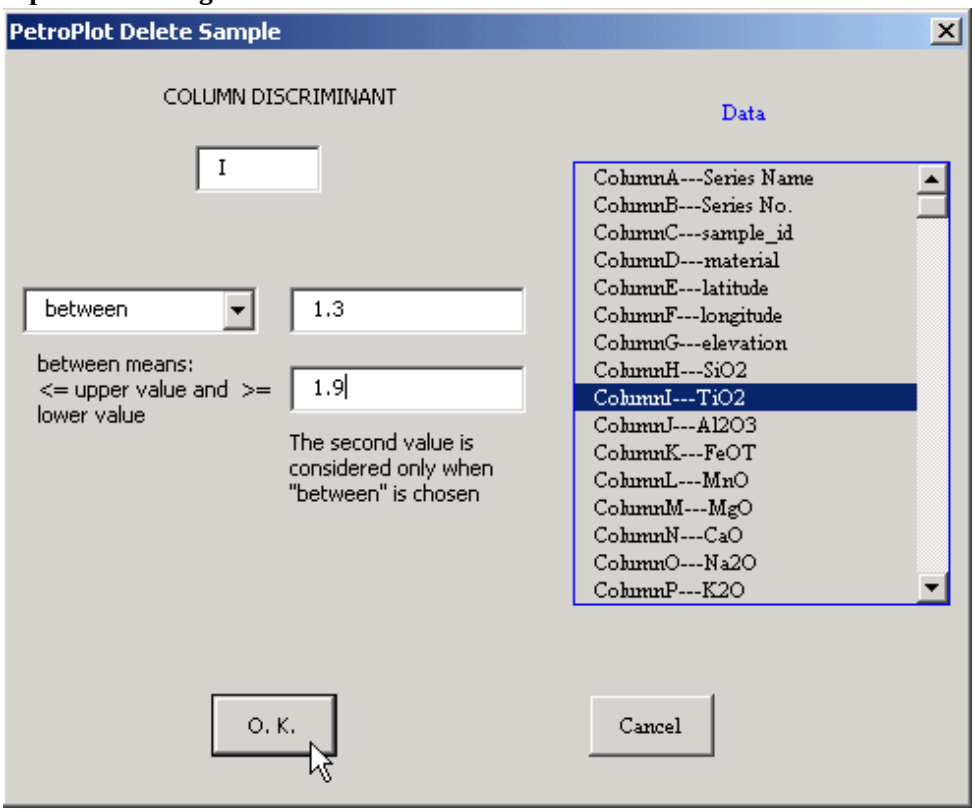



| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Series Name | Series No. | sample_id | material | latitude | longitude | elevation | SiO2 | TiO2 | Al2O3 | FeOT |
| 2 | N5 | 1 | WASRAI2-001-014 | glass | 5.777 | -102.183 | -1938 | 49.18 | 1.01 | 16.42 | 8.43 |
| 3 | N5 | 1 | WASRAI2-001-017 | glass | 5.777 | -102.183 | -1938 | 49.87 | 1.2 | 15.38 | 9.42 |
| 4 | N5 | 1 | WASRAI2-003-001 | glass | 5.775 | -102.212 | -1788 | 49.12 | 0.91 | 16.68 | 8.1 |
| 5 | N5 | 1 | WASRAI2-003-003 | glass | 5.775 | -102.212 | -1788 | 50.27 | 1.35 | 15.1 | 9.38 |
| 6 | N5 | 1 | WASRAI2-003-004 | glass | 5.775 | -102.212 | -1788 | 50.72 | 1.92 | 14.89 | 10.35 |
| 7 | N5 | 1 | WASRAI2-004-007 | glass | 5.6 | -103.018 | -2320 | 50.65 | 1.84 | 14.72 | 10.44 |
| 8 | N8-N10 | 2 | WASRAI2-007-013 | glass | 8.145 | -103.178 | -2087 | 50.45 | 1.05 | 14.96 | 9.15 |
| 9 | N8-N10 | 2 | WASRAI2-008-008 | glass | 8.353 | -103.023 | -3800 | 50.81 | 1.51 | 14.18 | 10.97 |
| 10 | N8-N10 | 2 | WASRAI2-009-001 | glass | 8.392 | -103.525 | -3100 | 50.01 | 1.48 | 15.22 | 9.6 |
| 11 | N8-N10 | 2 | WASRAI2-010-003 | glass | 8.348 | -104.105 | -2731 | 50.29 | 2.28 | 13.66 | 12.55 |
| 12 | N8-N10 | 2 | WASRAI2-012-001 | glass | 8.363 | -105.638 | -2865 | 48.34 | 1.27 | 17.18 | 8.74 |
| 13 | N8-N10 | 2 | WASRAI2-013-001 | glass | 8.402 | -104.688 | -2180 | 48.4 | 2.28 | 16.88 | 8.82 |
| 14 | N8-N10 | 2 | WASRAI2-013-002 | glass | 8.402 | -104.688 | -2180 | 48.4 | 1.29 | 17.16 | 8.69 |
| 15 | N8-N10 | 2 | WASRAI2-015-001 | glass | 8.768 | -104.528 | -1682 | 48.97 | 2.38 | 18.1 | 8.89 |
| 16 | N8-N10 | 2 | WASRAI2-016-001 | glass | 8.843 | -104.56 | -2985 | 50.39 | 1.58 | 14.83 | 10 |
| 17 | N8-N10 | 2 | WASRAI2-016-002 | glass | 8.843 | -104.56 | -2985 | 50.12 | 1.08 | 16.05 | 8.3 |
| 18 | N8-N10 | 2 | WASRAI2-017-001 | glass | 8.912 | -104.565 | -2720 | 50.33 | 2.23 | 15.08 | 10.11 |
| 19 | N8-N10 | 2 | WASRAI2-018-003 | glass | 8.935 | -104.457 | -2720 | 49.99 | 1.76 | 15.84 | 9.2 |
| 20 | N8-N10 | 2 | WASRAI2-019-004 | glass | 8.933 | -104.405 | -2375 | 49.75 | 1.09 | 16.07 | 8.41 |
| 21 | N8-N10 | 2 | WASRAI2-020-002 | glass | 8.995 | -104.373 | -2985 | 51.28 | 1.5 | 14.73 | 9.86 |
| 22 | N8-N10 | 2 | WASRAI2-020-003 | glass | 8.995 | -104.373 | -2985 | 51.81 | 2.01 | 14.07 | 11.32 |
| 23 | N8-N10 | 2 | WASRAI2-021-006 | glass | 8.897 | -104.143 | -2711 | 50.82 | 1.42 | 15.27 | 9.52 |
| 24 | N8-N10 | 2 | WASRAI2-022-001 | glass | 8.897 | -104.102 | -2761 | 51.92 | 1.33 | 14.67 | 9.69 |
| 25 | N8-N10 | 2 | WASRAI2-023-002 | glass | 9.035 | -104.045 | -3025 | 49.18 | 0.98 | 17.38 | 8.53 |
| 26 | N8-N10 | 2 | WASRAI2-024-001 | glass | 8.963 | -103.208 | -3140 | 51.08 | 1.4 | 14.75 | 10.07 |

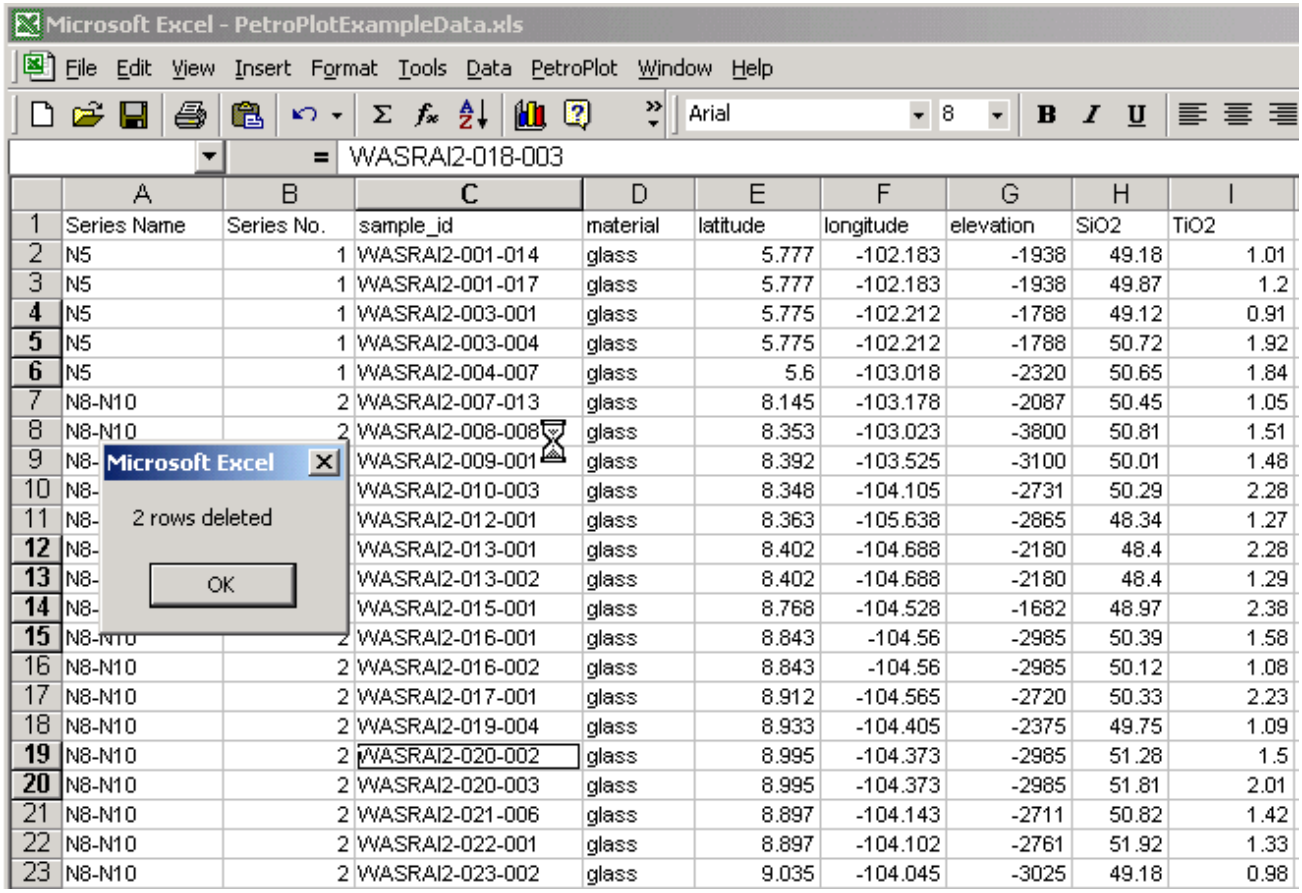
**Click PetroPlot --> Delete Sample.**




**Input the deleting criteria:**

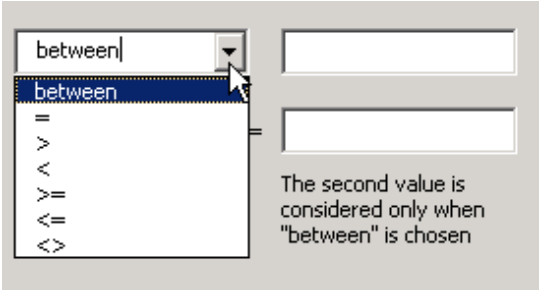



**Result:**




| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Series Name | Series No. | sample_id | material | latitude | longitude | elevation | SiO2 | TiO2 |
| 2 | N5 | 1 | WASRAI2-001-014 | glass | 5.777 | -102.183 | -1938 | 49.18 | 1.01 |
| 3 | N5 | 1 | WASRAI2-001-017 | glass | 5.777 | -102.183 | -1938 | 49.87 | 1.2 |
| 4 | N5 | 1 | WASRAI2-003-001 | glass | 5.775 | -102.212 | -1788 | 49.12 | 0.91 |
| 5 | N5 | 1 | WASRAI2-003-004 | glass | 5.775 | -102.212 | -1788 | 50.72 | 1.92 |
| 6 | N5 | 1 | WASRAI2-004-007 | glass | 5.6 | -103.018 | -2320 | 50.65 | 1.84 |
| 7 | N8-N10 | 2 | WASRAI2-007-013 | glass | 8.145 | -103.178 | -2087 | 50.45 | 1.05 |
| 8 | N8-N10 | 2 | WASRAI2-008-008 | glass | 8.353 | -103.023 | -3800 | 50.81 | 1.51 |
| 9 | N8- | | WASRAI2-009-001 | glass | 8.392 | -103.525 | -3100 | 50.01 | 1.48 |
| 10 | N8- | | WASRAI2-010-003 | glass | 8.348 | -104.105 | -2731 | 50.29 | 2.28 |
| 11 | N8- | | WASRAI2-012-001 | glass | 8.363 | -105.638 | -2865 | 48.34 | 1.27 |
| 12 | N8- | | WASRAI2-013-001 | glass | 8.402 | -104.688 | -2180 | 48.4 | 2.28 |
| 13 | N8- | | WASRAI2-013-002 | glass | 8.402 | -104.688 | -2180 | 48.4 | 1.29 |
| 14 | N8- | | WASRAI2-015-001 | glass | 8.768 | -104.528 | -1682 | 48.97 | 2.38 |
| 15 | N8-N10 | 2 | WASRAI2-016-001 | glass | 8.843 | -104.56 | -2985 | 50.39 | 1.58 |
| 16 | N8-N10 | 2 | WASRAI2-016-002 | glass | 8.843 | -104.56 | -2985 | 50.12 | 1.08 |
| 17 | N8-N10 | 2 | WASRAI2-017-001 | glass | 8.912 | -104.565 | -2720 | 50.33 | 2.23 |
| 18 | N8-N10 | 2 | WASRAI2-019-004 | glass | 8.933 | -104.405 | -2375 | 49.75 | 1.09 |
| 19 | N8-N10 | 2 | WASRAI2-020-002 | glass | 8.995 | -104.373 | -2985 | 51.28 | 1.5 |
| 20 | N8-N10 | 2 | WASRAI2-020-003 | glass | 8.995 | -104.373 | -2985 | 51.81 | 2.01 |
| 21 | N8-N10 | 2 | WASRAI2-021-006 | glass | 8.897 | -104.143 | -2711 | 50.82 | 1.42 |
| 22 | N8-N10 | 2 | WASRAI2-022-001 | glass | 8.897 | -104.102 | -2761 | 51.92 | 1.33 |
| 23 | N8-N10 | 2 | WASRAI2-023-002 | glass | 9.035 | -104.045 | -3025 | 49.18 | 0.98 |

**Note:**
The deleting condition could be as following. Only "between" needs two values.




*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Tutorial: Delete Sample function**

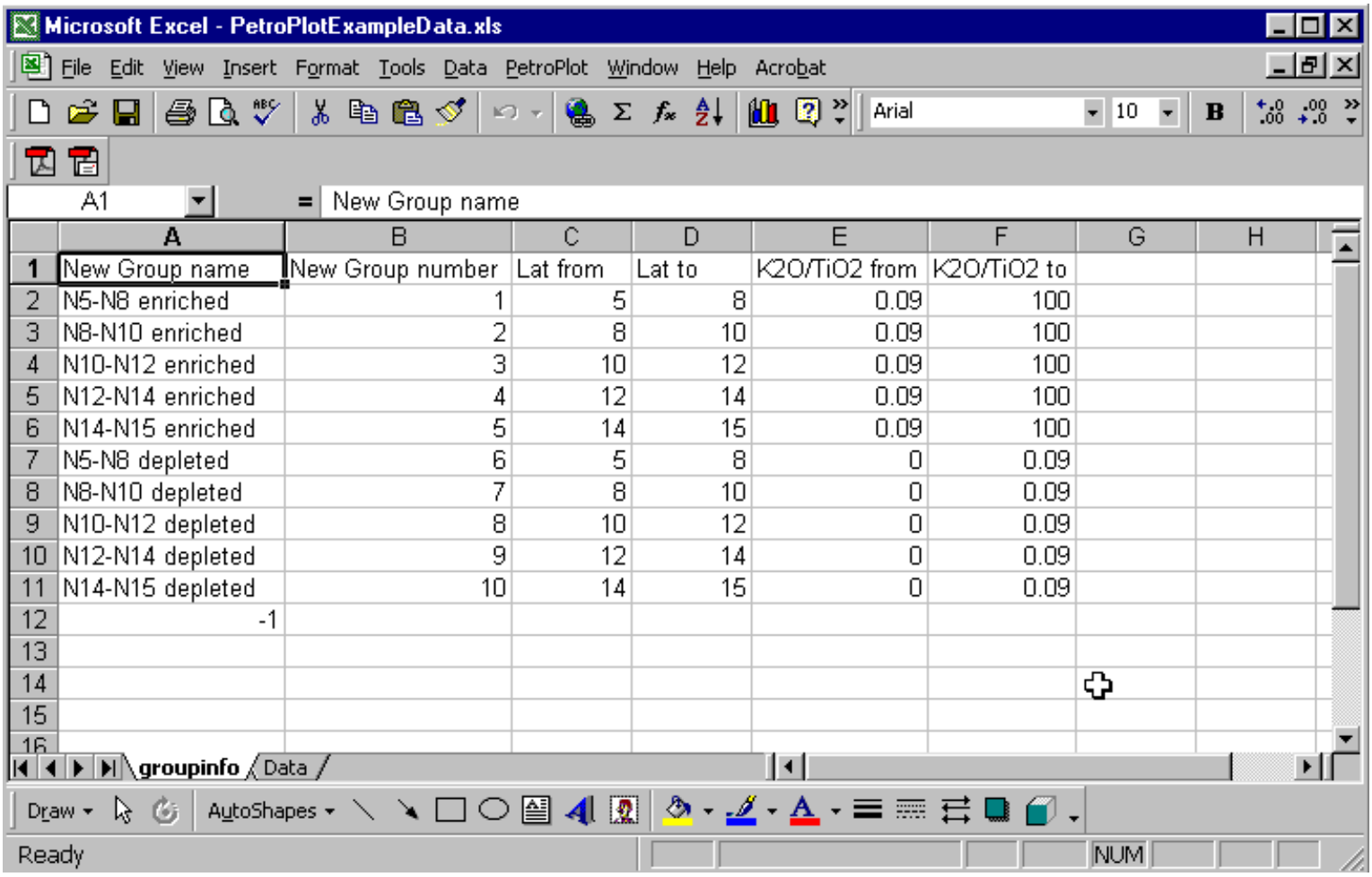
# PetroPlot Tutorial

# Grouping function

**Purpose:**
Samples are often grouped by a variety of criteria, such as locations, materials, chemical values, calculated indexes (e.g. Na8, La/Sm), analytical methods etc.

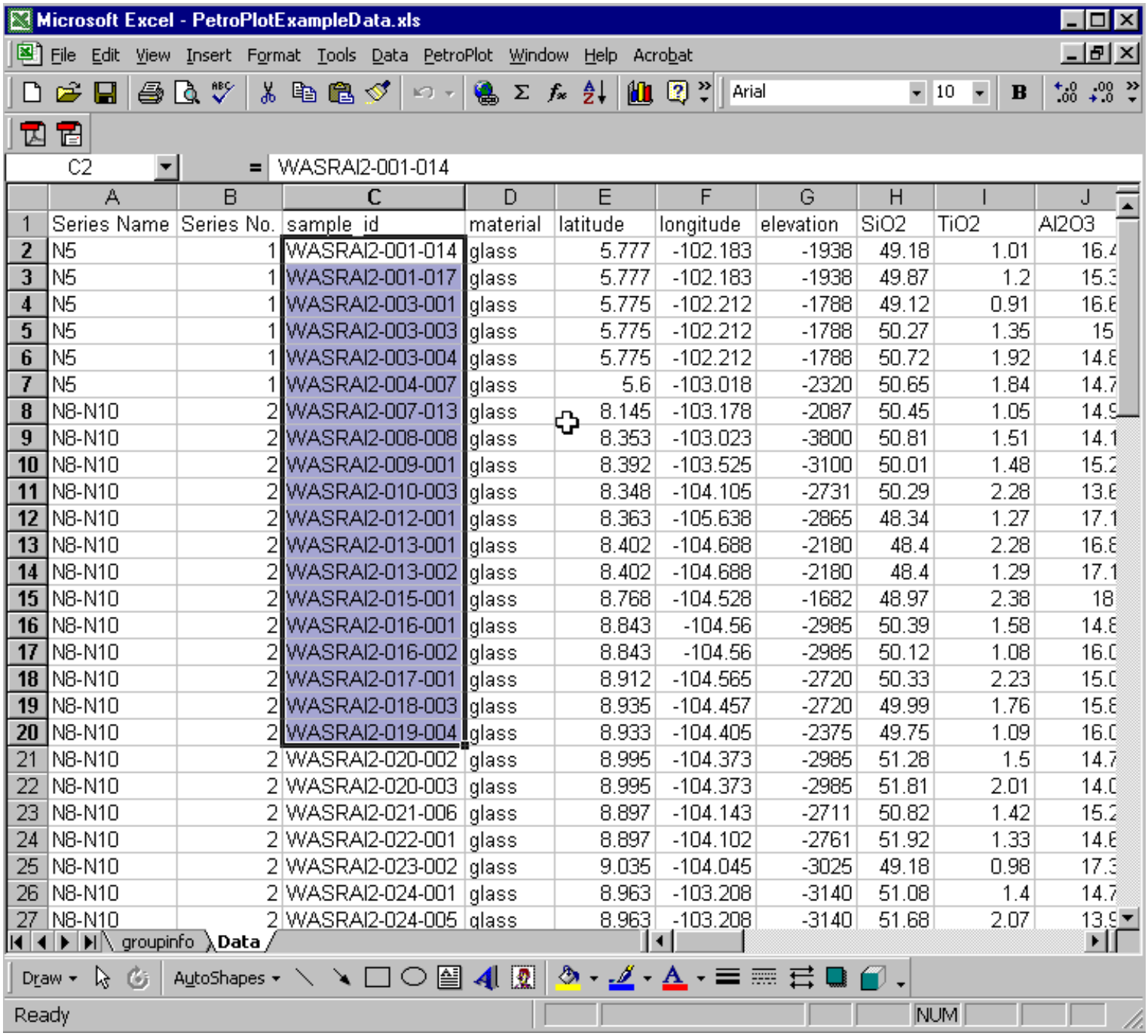
The PetroPlot Grouping function reads grouping information from a grouping worksheet, and assigns grouping number/ID to individual samples in the data sheet

**Start:** Open PetroPlotExampleData.xls in Excel.
The "groupinfo" worksheet should have 6 columns and 11 rows, with a "-1" at cell A12.



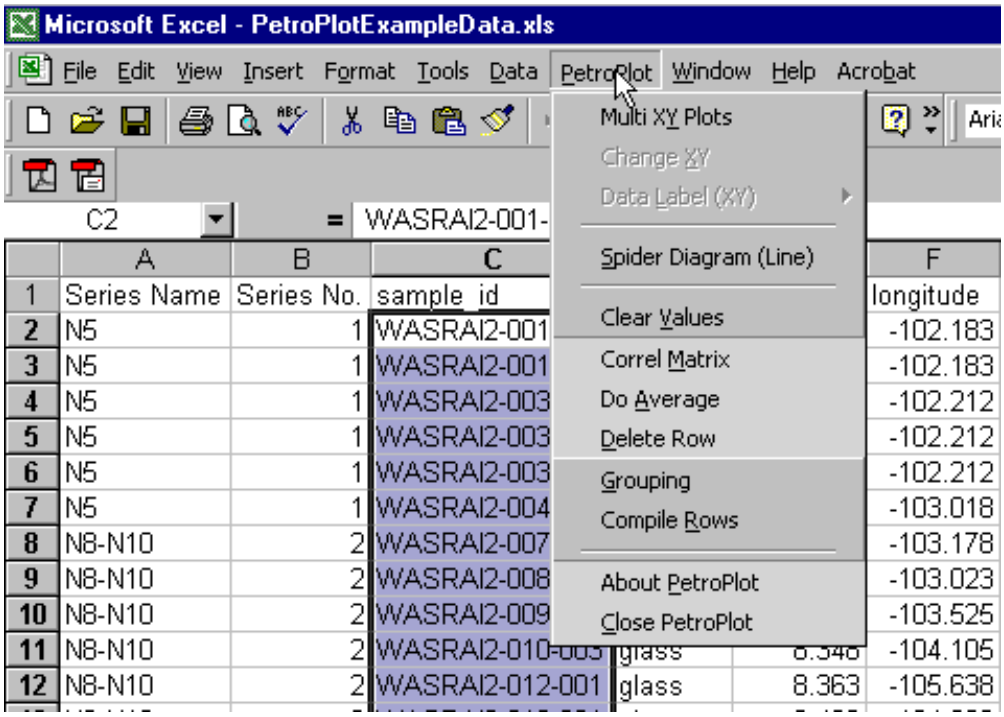

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | New Group name | New Group number | Lat from | Lat to | K2O/TiO2 from | K2O/TiO2 to | | |
| 2 | N5-N8 enriched | 1 | 5 | 8 | 0.09 | 100 | | |
| 3 | N8-N10 enriched | 2 | 8 | 10 | 0.09 | 100 | | |
| 4 | N10-N12 enriched | 3 | 10 | 12 | 0.09 | 100 | | |
| 5 | N12-N14 enriched | 4 | 12 | 14 | 0.09 | 100 | | |
| 6 | N14-N15 enriched | 5 | 14 | 15 | 0.09 | 100 | | |
| 7 | N5-N8 depleted | 6 | 5 | 8 | 0 | 0.09 | | |
| 8 | N8-N10 depleted | 7 | 8 | 10 | 0 | 0.09 | | |
| 9 | N10-N12 depleted | 8 | 10 | 12 | 0 | 0.09 | | |
| 10 | N12-N14 depleted | 9 | 12 | 14 | 0 | 0.09 | | |
| 11 | N14-N15 depleted | 10 | 14 | 15 | 0 | 0.09 | | |
| 12 | -1 | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |

**Step 1:** Select rows you want to work on.
Note: you can highlight any column.

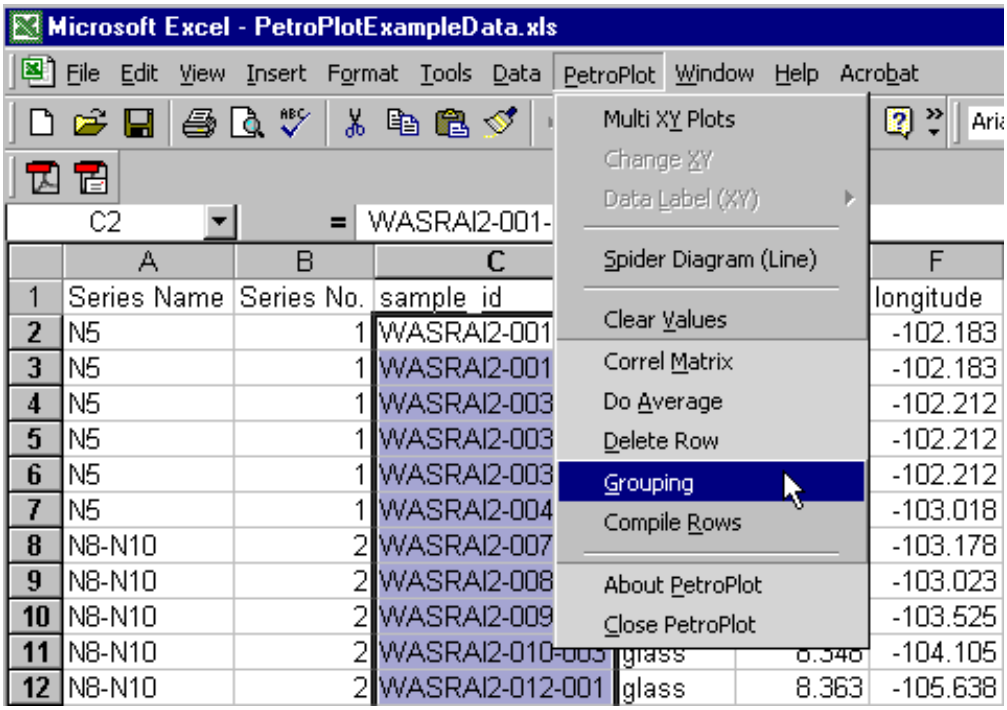



| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Series Name | Series No. | sample_id | material | latitude | longitude | elevation | SiO2 | TiO2 | Al2O3 |
| 2 | N5 | 1 | WASRAI2-001-014 | glass | 5.777 | -102.183 | -1938 | 49.18 | 1.01 | 16.4 |
| 3 | N5 | 1 | WASRAI2-001-017 | glass | 5.777 | -102.183 | -1938 | 49.87 | 1.2 | 15.3 |
| 4 | N5 | 1 | WASRAI2-003-001 | glass | 5.775 | -102.212 | -1788 | 49.12 | 0.91 | 16.6 |
| 5 | N5 | 1 | WASRAI2-003-003 | glass | 5.775 | -102.212 | -1788 | 50.27 | 1.35 | 15 |
| 6 | N5 | 1 | WASRAI2-003-004 | glass | 5.775 | -102.212 | -1788 | 50.72 | 1.92 | 14.6 |
| 7 | N5 | 1 | WASRAI2-004-007 | glass | 5.6 | -103.018 | -2320 | 50.65 | 1.84 | 14.7 |
| 8 | N8-N10 | 2 | WASRAI2-007-013 | glass | 8.145 | -103.178 | -2087 | 50.45 | 1.05 | 14.9 |
| 9 | N8-N10 | 2 | WASRAI2-008-008 | glass | 8.353 | -103.023 | -3800 | 50.81 | 1.51 | 14.1 |
| 10 | N8-N10 | 2 | WASRAI2-009-001 | glass | 8.392 | -103.525 | -3100 | 50.01 | 1.48 | 15.2 |
| 11 | N8-N10 | 2 | WASRAI2-010-003 | glass | 8.348 | -104.105 | -2731 | 50.29 | 2.28 | 13.6 |
| 12 | N8-N10 | 2 | WASRAI2-012-001 | glass | 8.363 | -105.638 | -2865 | 48.34 | 1.27 | 17.1 |
| 13 | N8-N10 | 2 | WASRAI2-013-001 | glass | 8.402 | -104.688 | -2180 | 48.4 | 2.28 | 16.6 |
| 14 | N8-N10 | 2 | WASRAI2-013-002 | glass | 8.402 | -104.688 | -2180 | 48.4 | 1.29 | 17.1 |
| 15 | N8-N10 | 2 | WASRAI2-015-001 | glass | 8.768 | -104.528 | -1682 | 48.97 | 2.38 | 18 |
| 16 | N8-N10 | 2 | WASRAI2-016-001 | glass | 8.843 | -104.56 | -2985 | 50.39 | 1.58 | 14.6 |
| 17 | N8-N10 | 2 | WASRAI2-016-002 | glass | 8.843 | -104.56 | -2985 | 50.12 | 1.08 | 16.0 |
| 18 | N8-N10 | 2 | WASRAI2-017-001 | glass | 8.912 | -104.565 | -2720 | 50.33 | 2.23 | 15.0 |
| 19 | N8-N10 | 2 | WASRAI2-018-003 | glass | 8.935 | -104.457 | -2720 | 49.99 | 1.76 | 15.6 |
| 20 | N8-N10 | 2 | WASRAI2-019-004 | glass | 8.933 | -104.405 | -2375 | 49.75 | 1.09 | 16.0 |
| 21 | N8-N10 | 2 | WASRAI2-020-002 | glass | 8.995 | -104.373 | -2985 | 51.28 | 1.5 | 14.7 |
| 22 | N8-N10 | 2 | WASRAI2-020-003 | glass | 8.995 | -104.373 | -2985 | 51.81 | 2.01 | 14.0 |
| 23 | N8-N10 | 2 | WASRAI2-021-006 | glass | 8.897 | -104.143 | -2711 | 50.82 | 1.42 | 15.2 |
| 24 | N8-N10 | 2 | WASRAI2-022-001 | glass | 8.897 | -104.102 | -2761 | 51.92 | 1.33 | 14.6 |
| 25 | N8-N10 | 2 | WASRAI2-023-002 | glass | 9.035 | -104.045 | -3025 | 49.18 | 0.98 | 17.3 |
| 26 | N8-N10 | 2 | WASRAI2-024-001 | glass | 8.963 | -103.208 | -3140 | 51.08 | 1.4 | 14.7 |
| 27 | N8-N10 | 2 | WASRAI2-024-005 | glass | 8.963 | -103.208 | -3140 | 51.68 | 2.07 | 13.9 |

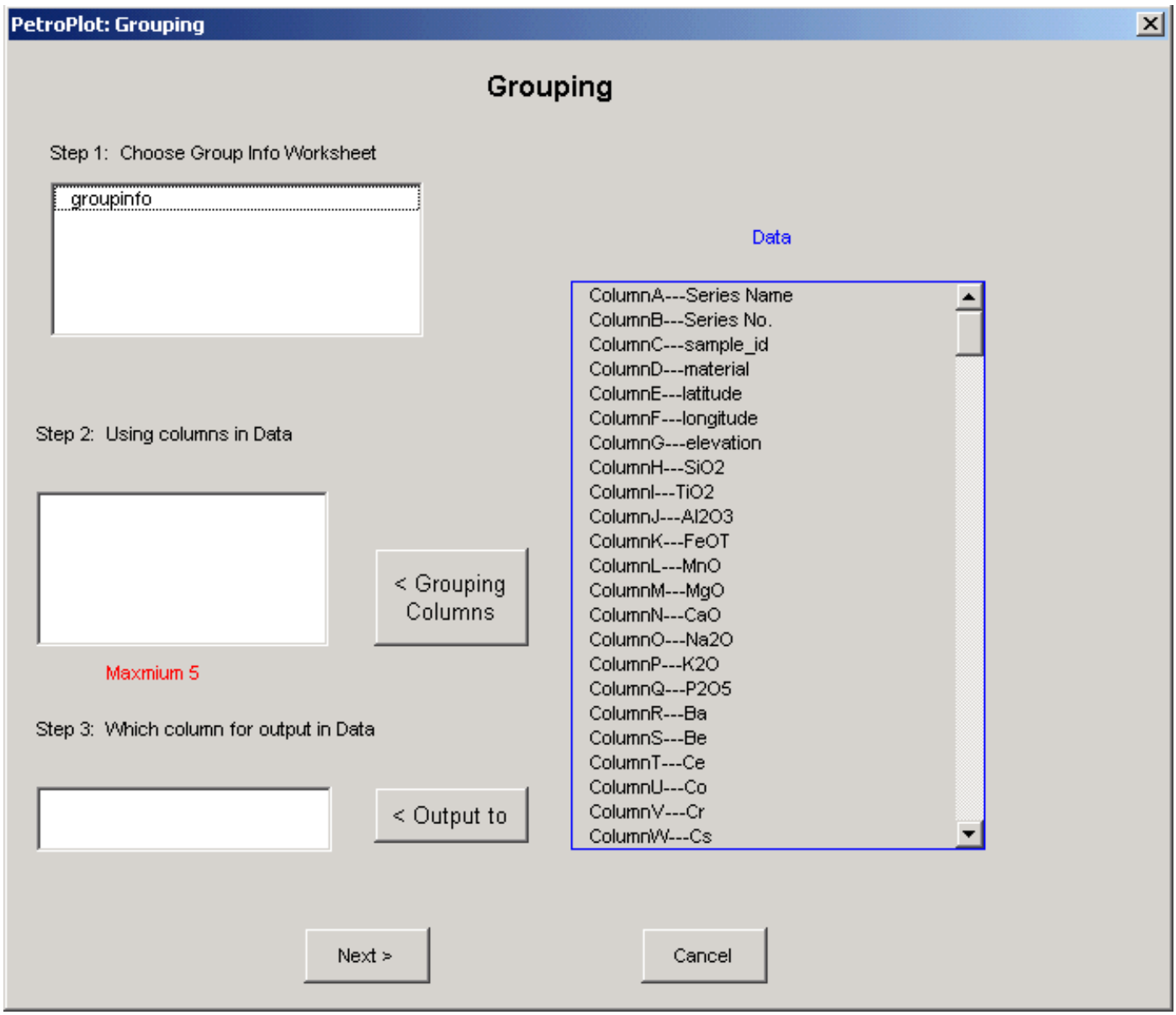
**Step 2:** click the "PetroPlot" menubar.



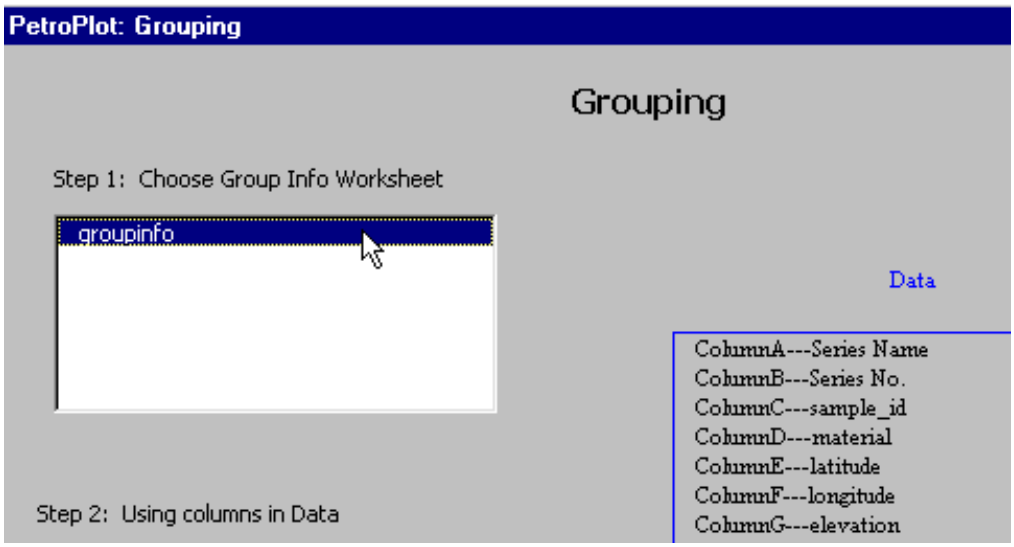

Then select the "Grouping" button.



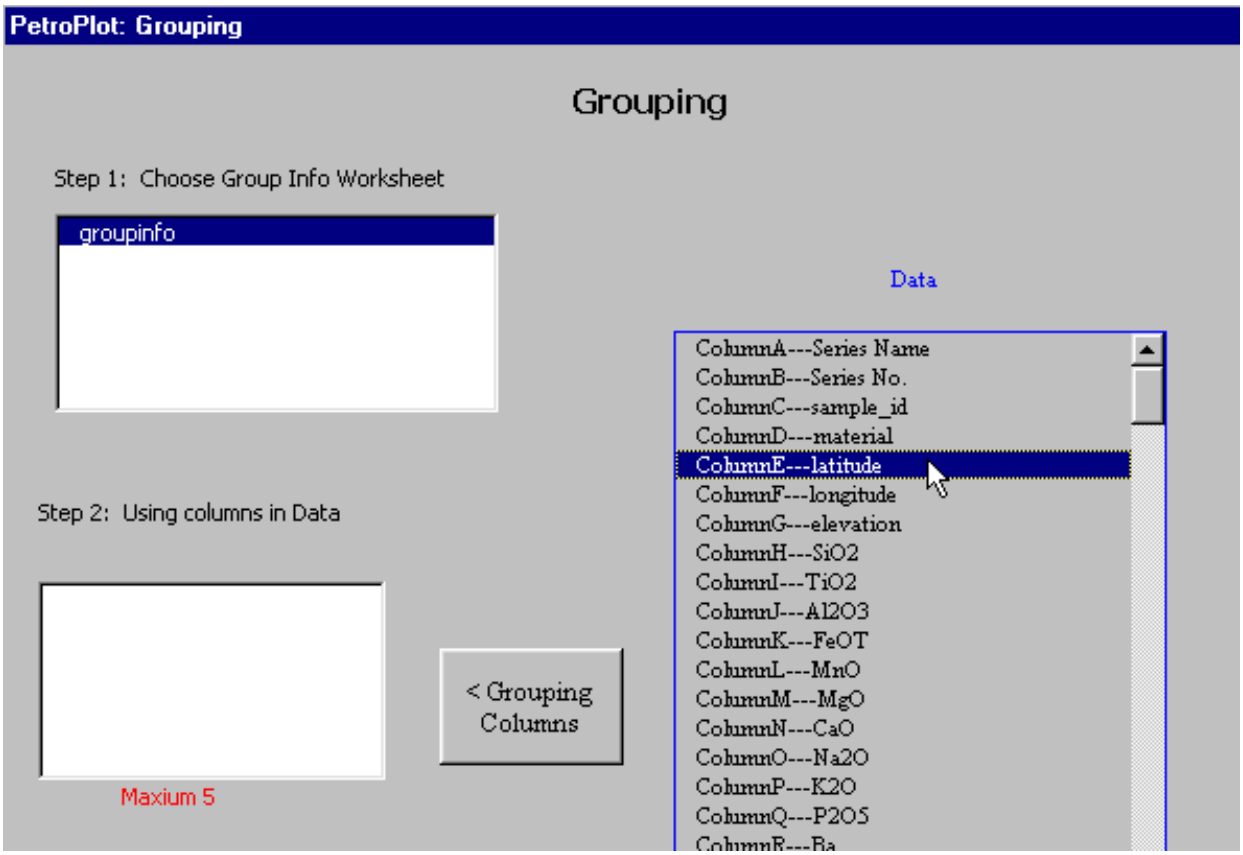

Now you see the "Grouping" window. In this window, the program reads from the "data" sheet



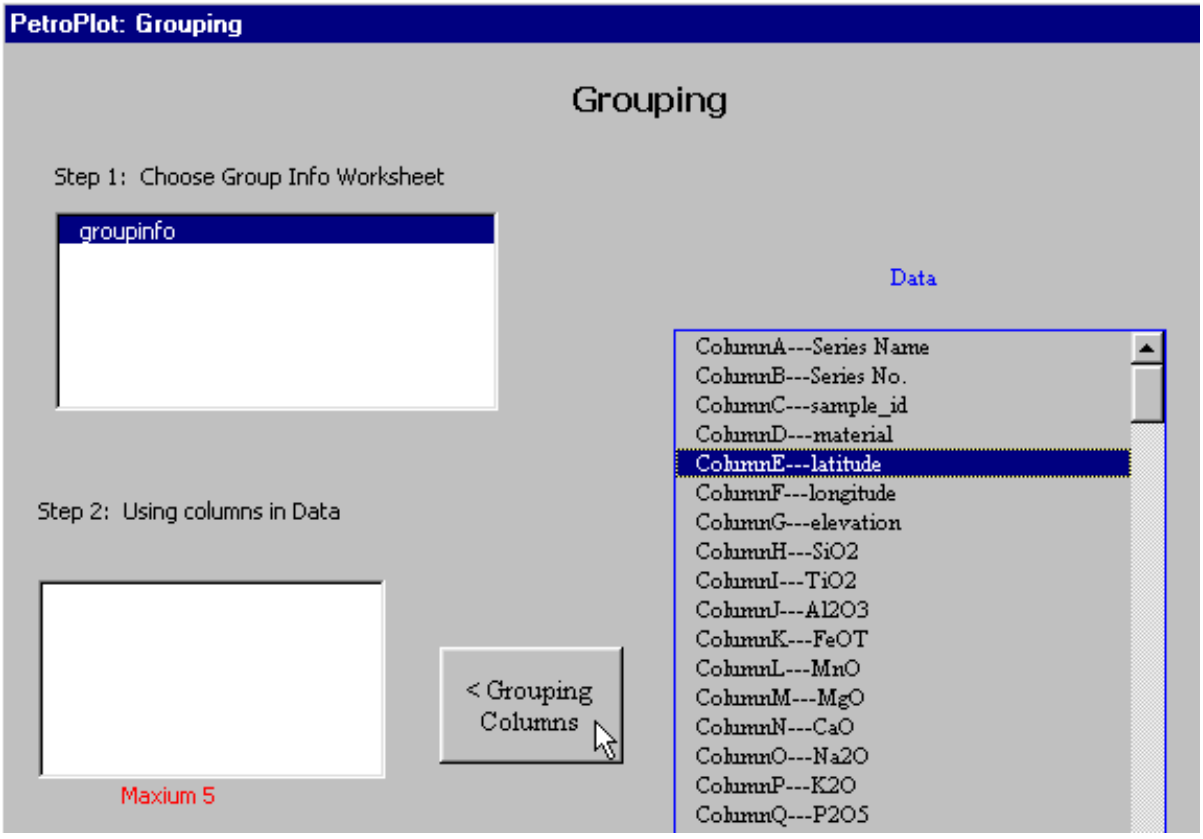

**Step 3:** Set up the group info sheet.
Note: you can make multiple group info sheets, and define different groups.



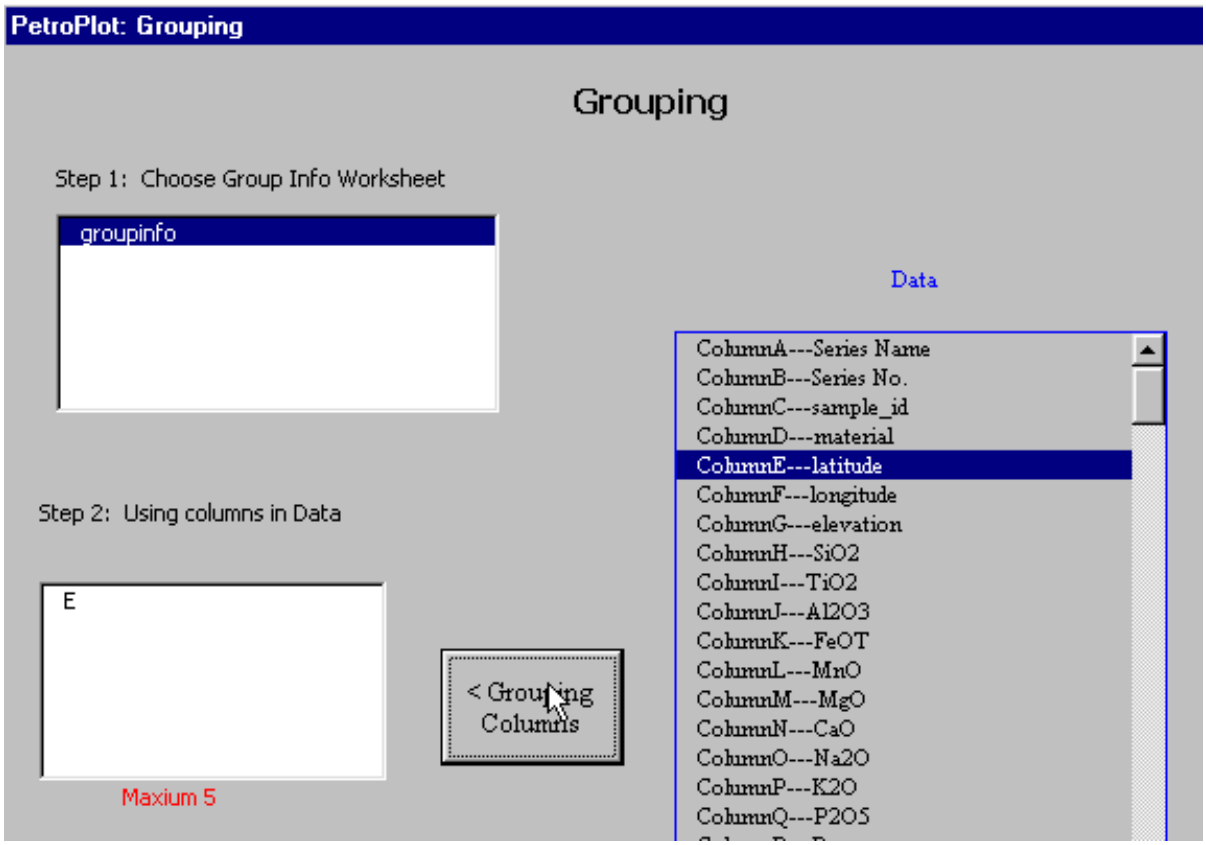
**Step 4:** Set up the grouping columns.
Note: Maximum number of grouping columns is 5.



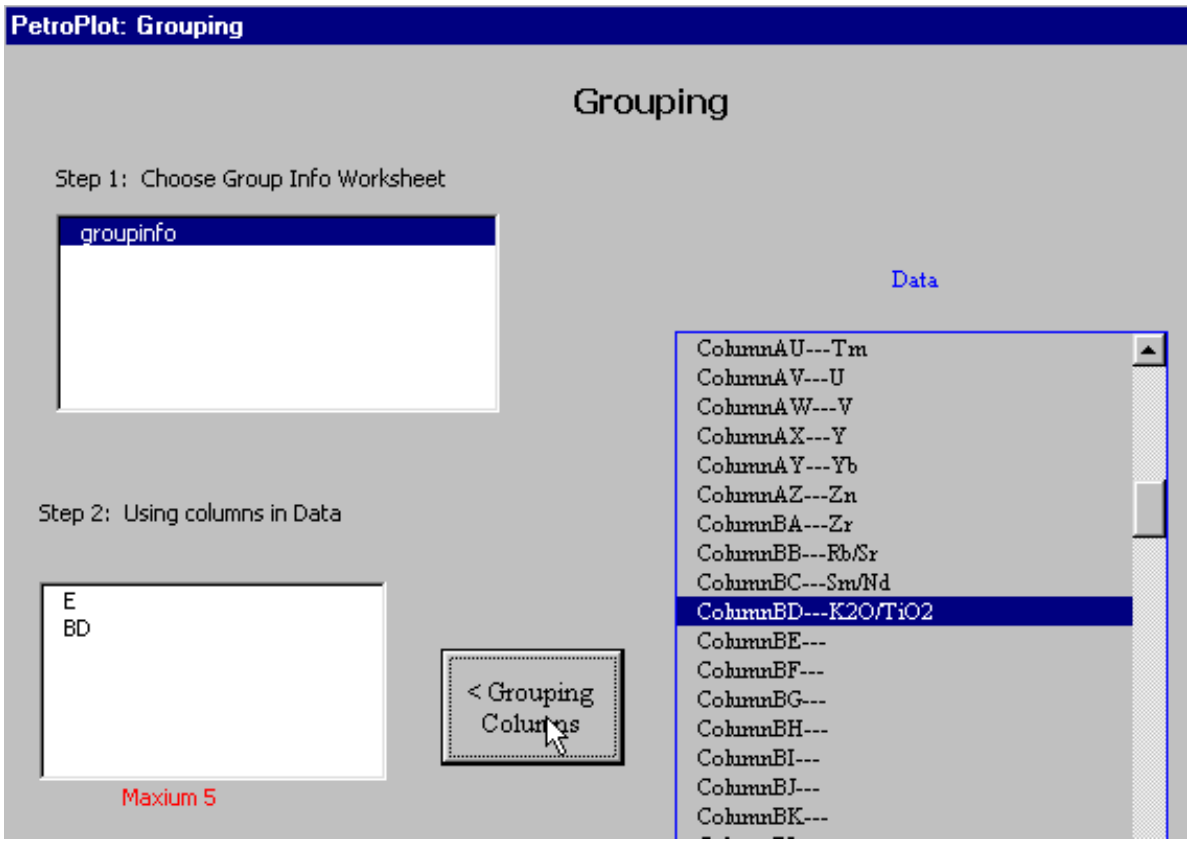

Highlight the column (image above), click the "Grouping Columns" button (image below)



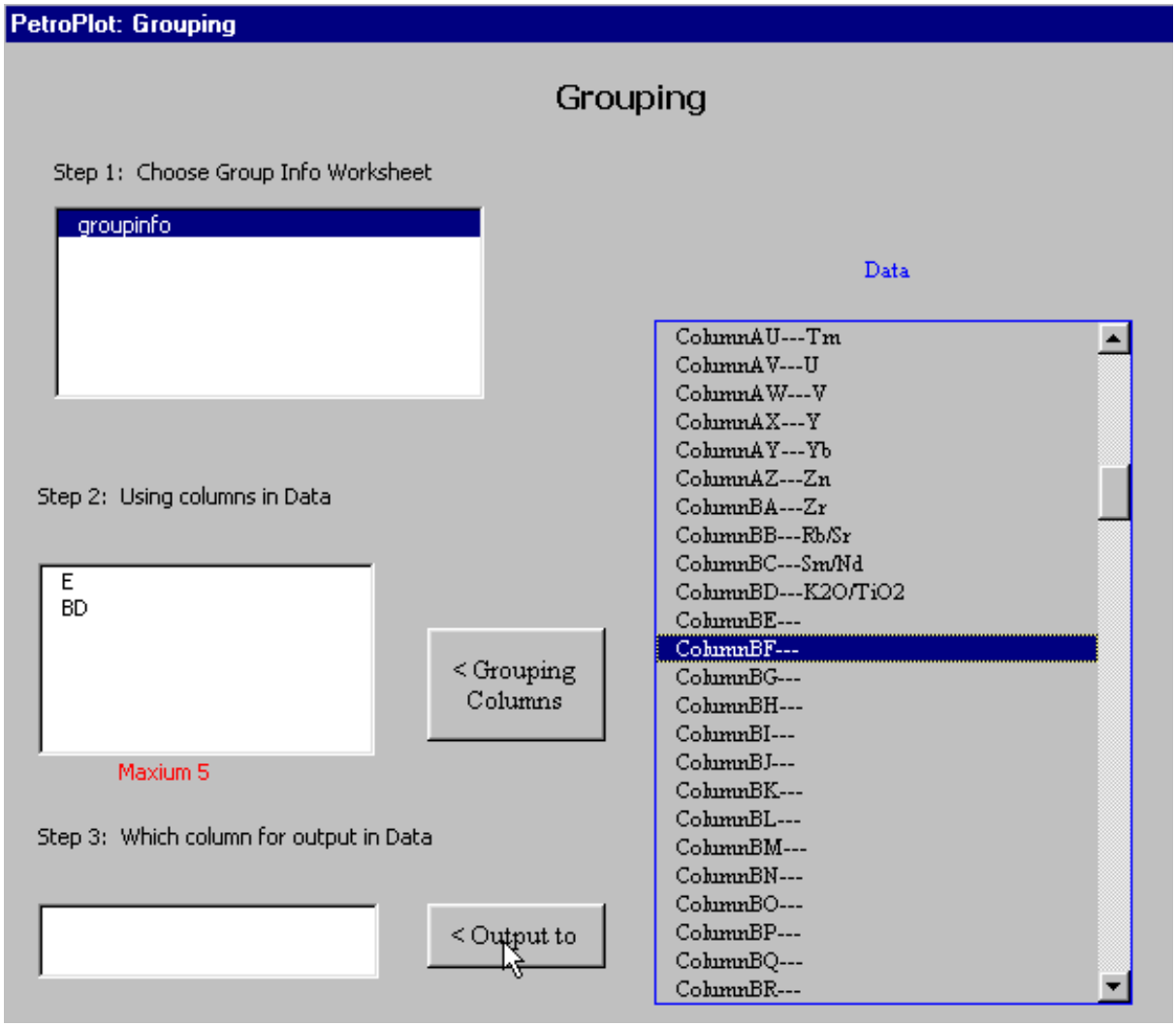
Now Column "E" is added



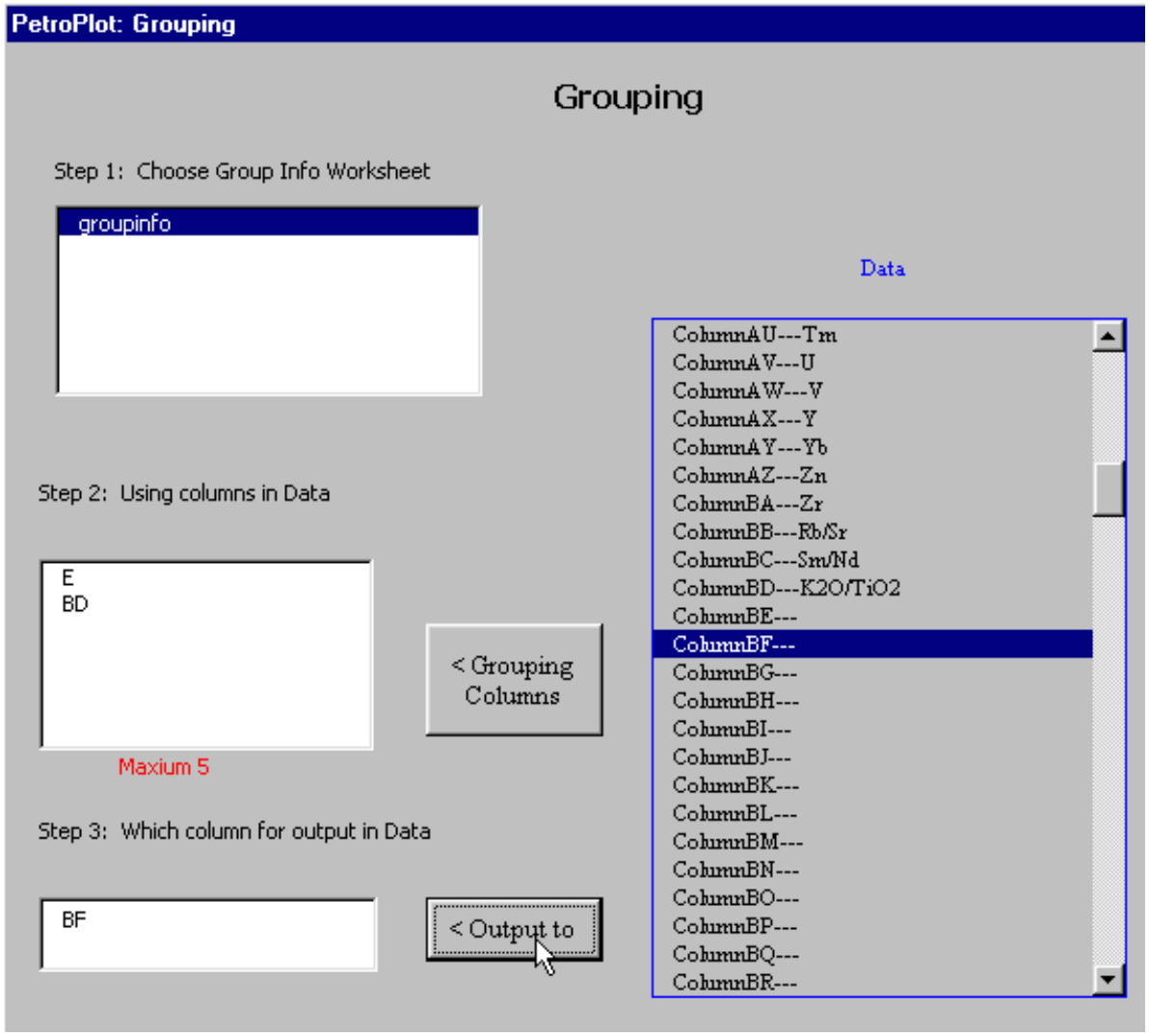

Repeat to choose all Grouping columns.



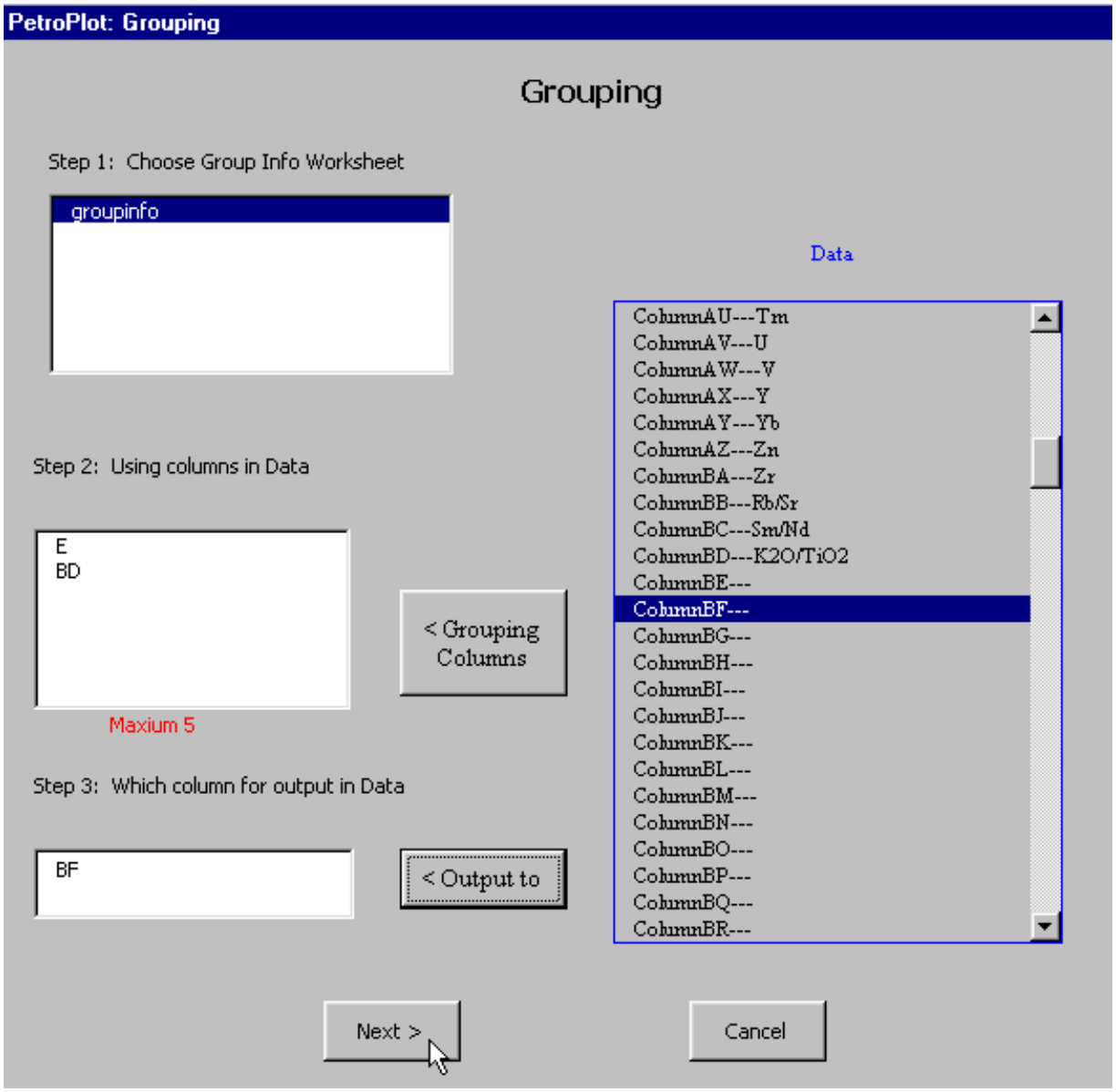
**Step 5:** Set up the output column.
Could be any blank column.



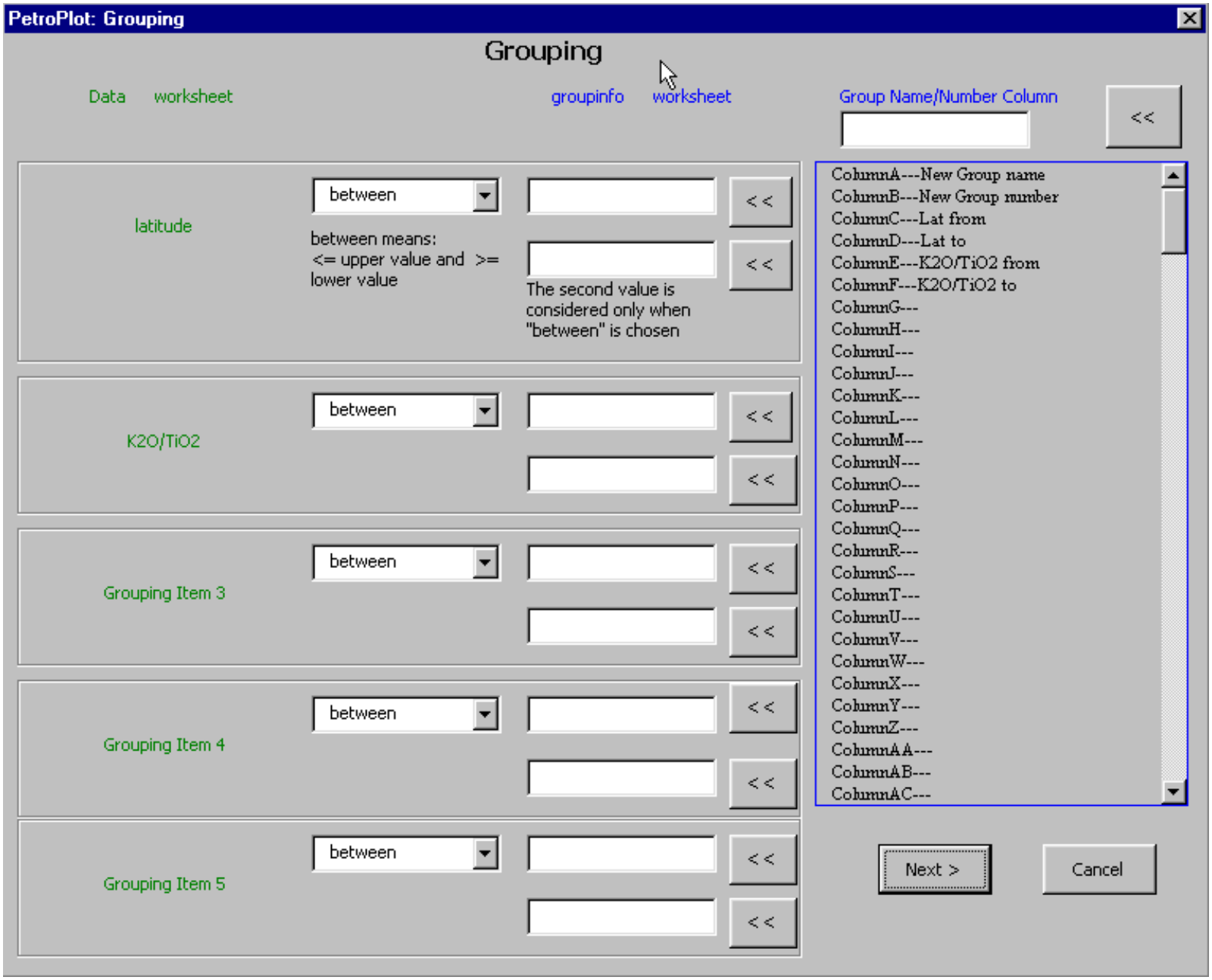

Highlight the column (image above), click the "Output to" button (image below)




**Step 6:** Click the "Next>" button.

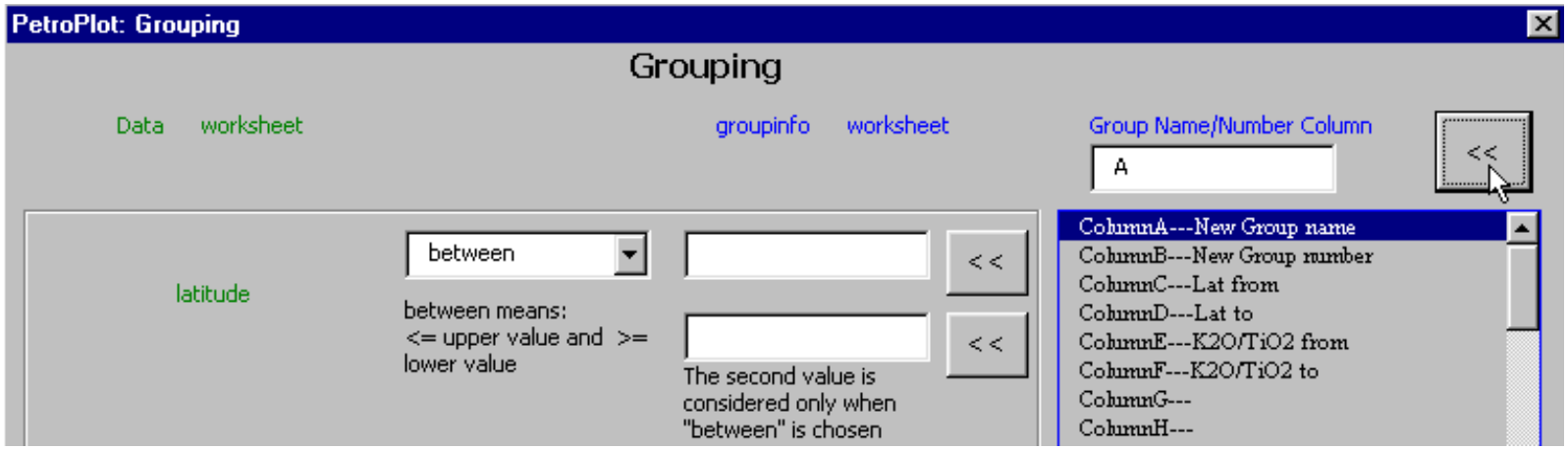



Now you see the "Grouping Next" window. In the new window, the program reads from the "groupinfo" sheet.

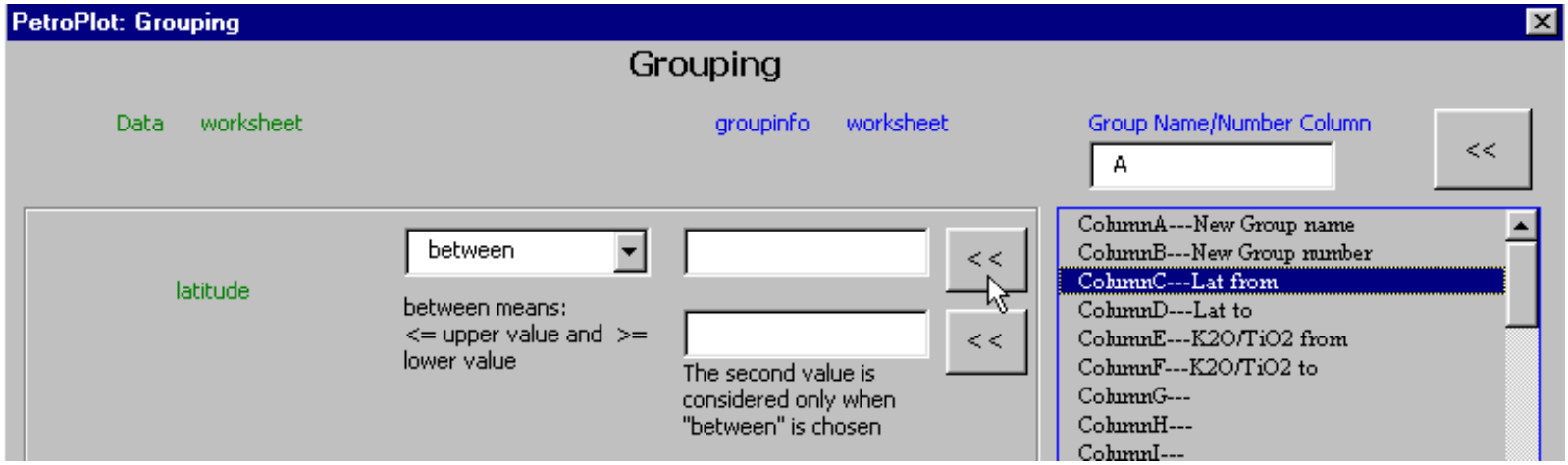



**Step 7:** Tell the program which column in "groupinfo" sheet contains group names.

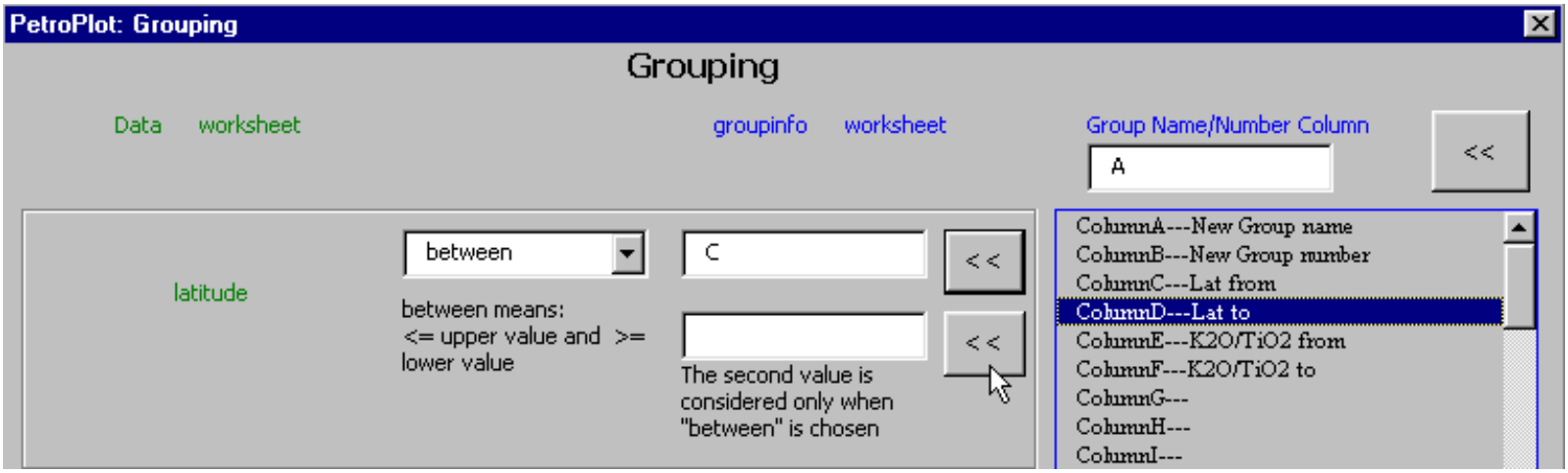

Highlight the column (image above), click the "<<" button in the upper right corner (image below)



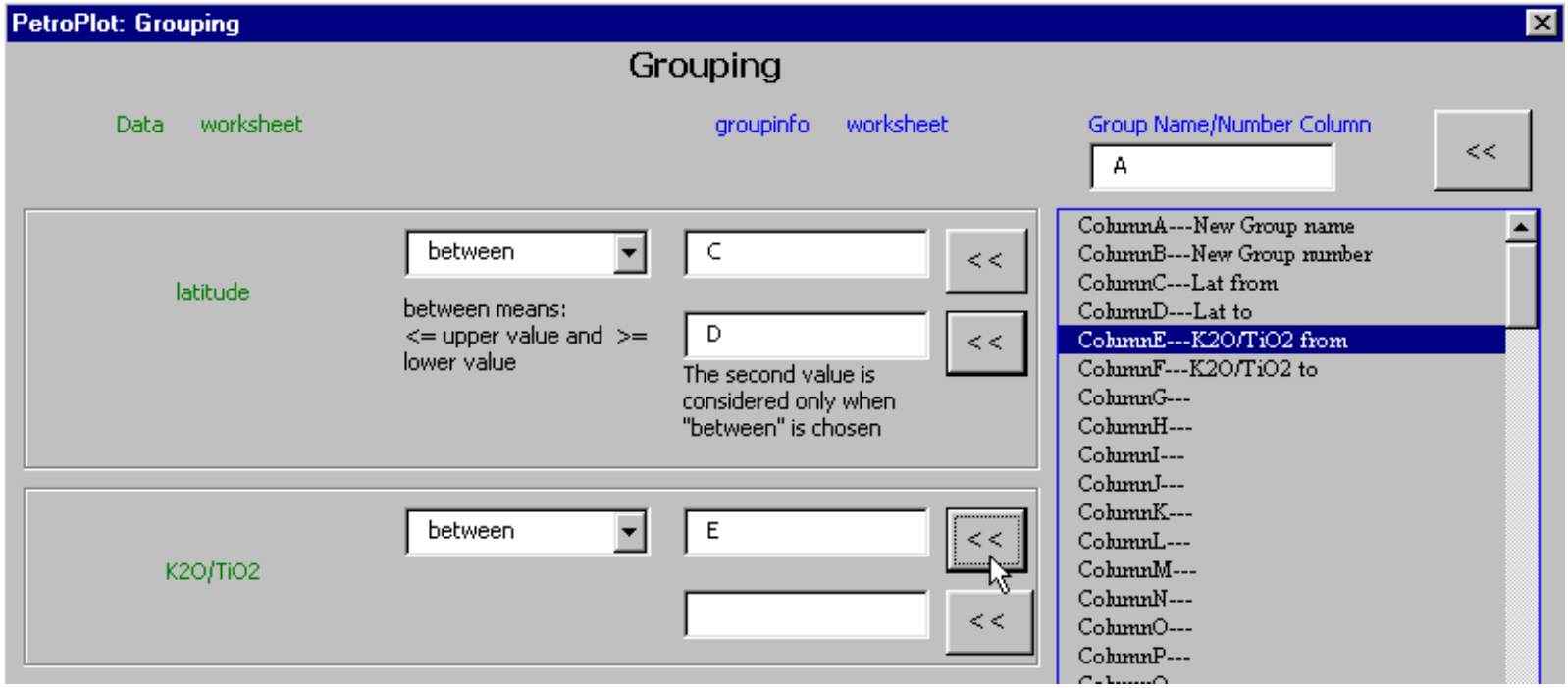

**Step 8:** Choose columns in "groupinfo" sheet to constrain your first grouping column in "data" sheet (in this example, the latitute column in "data" sheet").



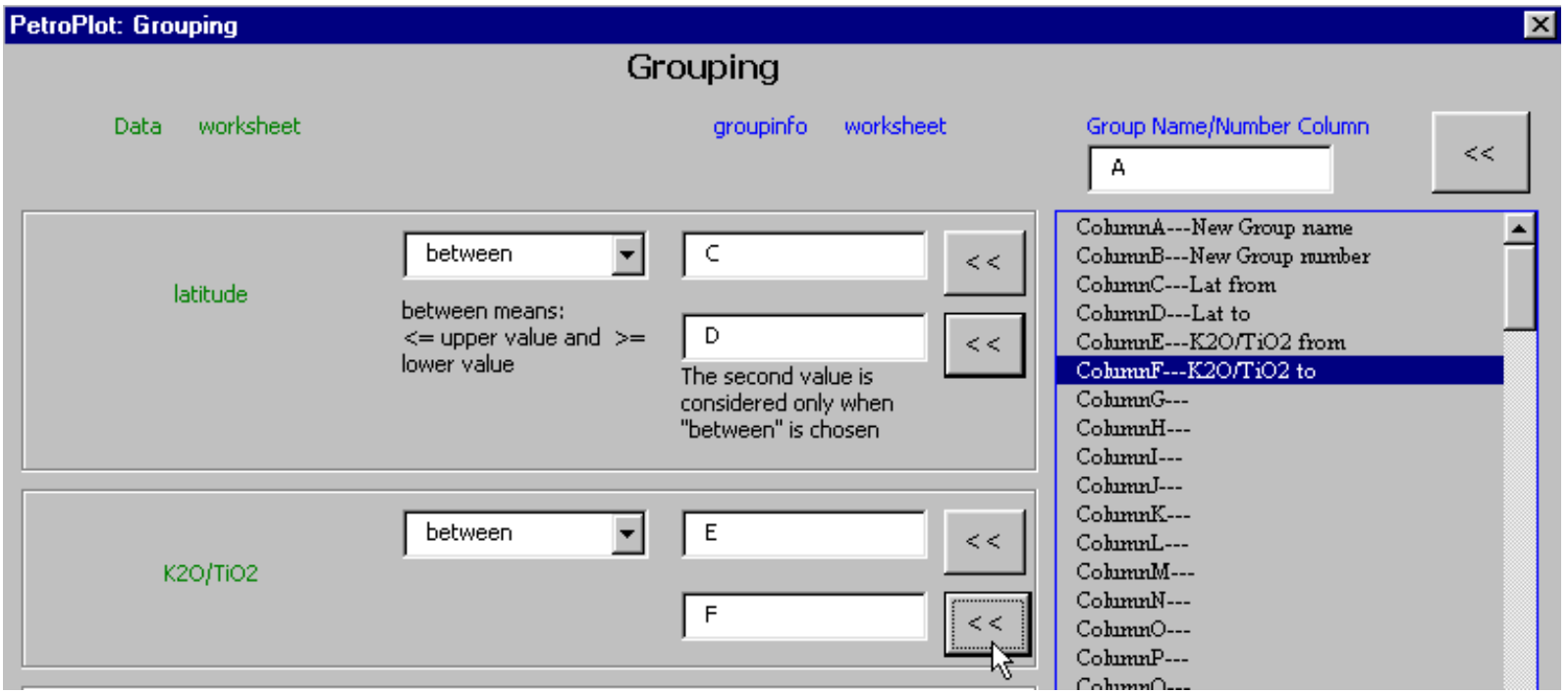

Highlight the column, click the "<<" button next to the input box (image above)
Repeat if the criteria is "between"(image below)



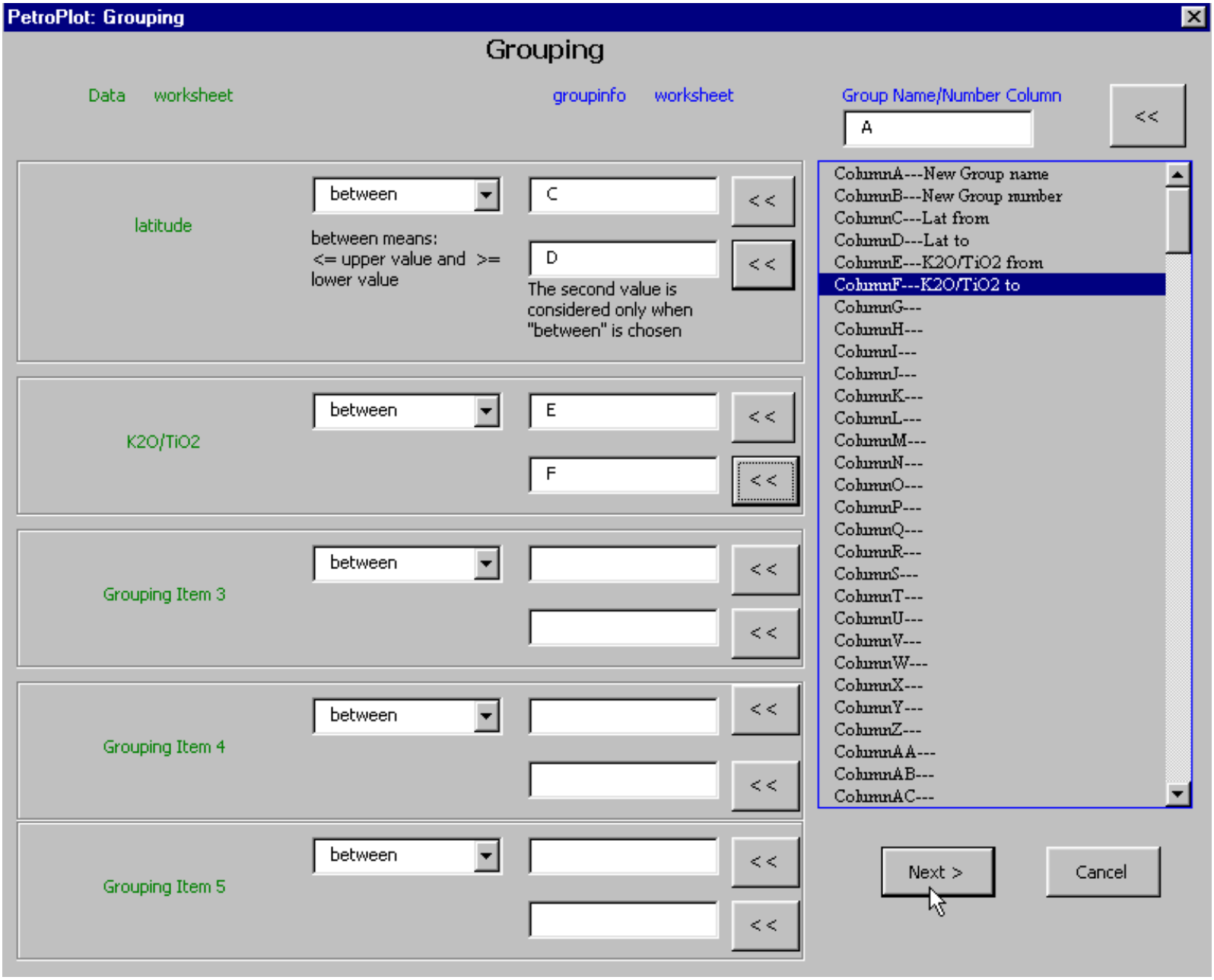

**Step 9:** Choose columns in "groupinfo" sheet to constrain your second grouping column in "data" sheet (in this example, the K2O/TiO2 column in "data" sheet").



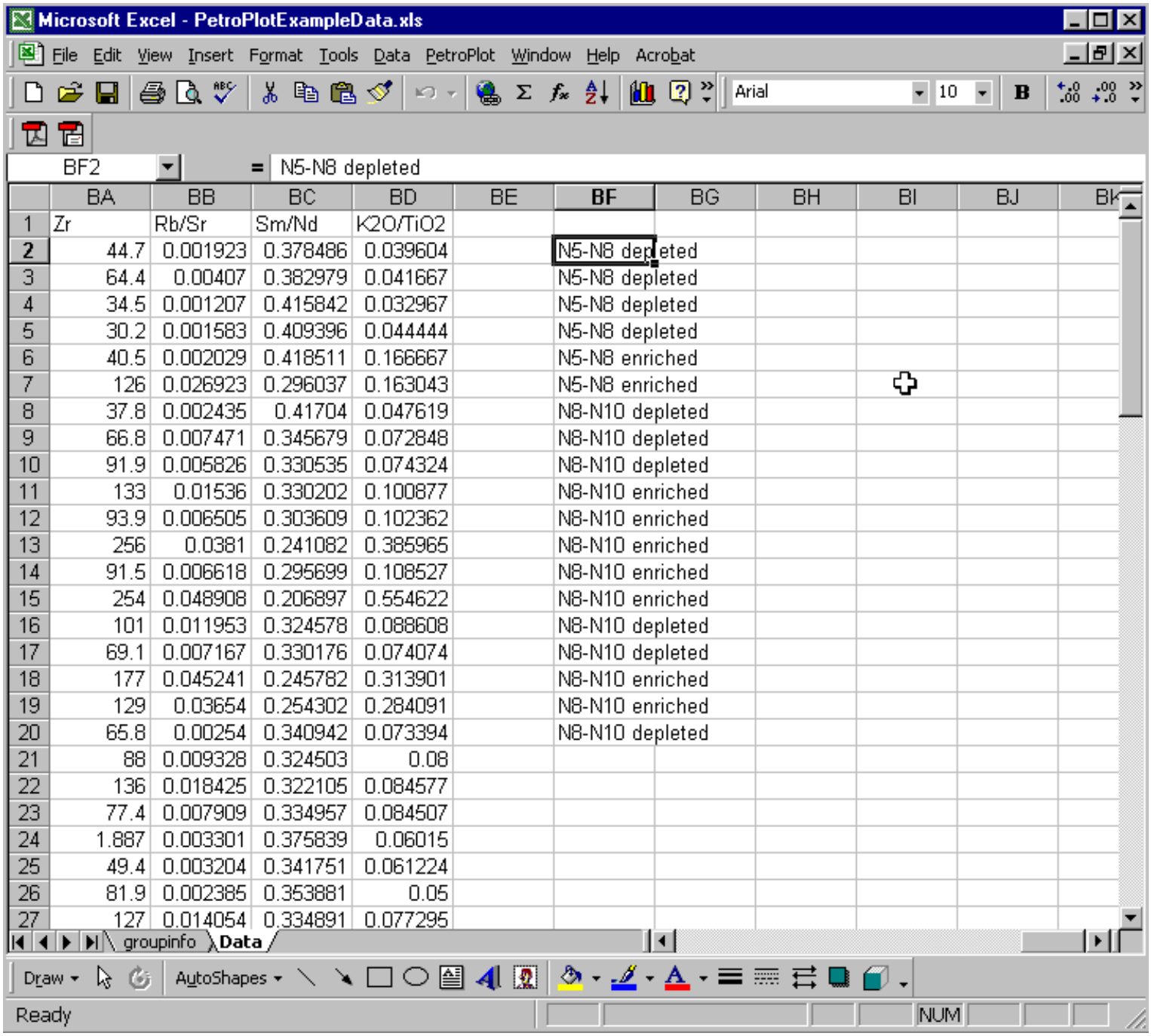

Highlight the column, click the "<<" button next to the input box (image above)
Repeat if the criteria is "between"(image below)




**Step 10:** Click the "Next>" button.


PetroPlot: Grouping
Grouping
Data worksheet
groupinfo worksheet
Group Name/Number Column
A
<<
latitude
between
C
<<
between means:
<= upper value and >= lower value
D
<<
The second value is considered only when "between" is chosen
K2O/TiO2
between
E
<<
F
<<
Grouping Item 3
between
<<
<<
Grouping Item 4
between
<<
<<
Grouping Item 5
between
<<
<<
ColumnA---New Group name
ColumnB---New Group number
ColumnC---Lat from
ColumnD---Lat to
ColumnE---K2O/TiO2 from
ColumnF---K2O/TiO2 to
ColumnG---
ColumnH---
ColumnI---
ColumnJ---
ColumnK---
ColumnL---
ColumnM---
ColumnN---
ColumnO---
ColumnP---
ColumnQ---
ColumnR---
ColumnS---
ColumnT---
ColumnU---
ColumnV---
ColumnW---
ColumnX---
ColumnY---
ColumnZ---
ColumnAA---
ColumnAB---
ColumnAC---
Next >
Cancel

## Result:




| | BA | BB | BC | BD | BE | BF | BG | BH | BI | BJ | BK |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Zr | Rb/Sr | Sm/Nd | K2O/TiO2 | | | | | | | |
| 2 | 44.7 | 0.001923 | 0.378486 | 0.039604 | | N5-N8 depleted | | | | | |
| 3 | 64.4 | 0.00407 | 0.382979 | 0.041667 | | N5-N8 depleted | | | | | |
| 4 | 34.5 | 0.001207 | 0.415842 | 0.032967 | | N5-N8 depleted | | | | | |
| 5 | 30.2 | 0.001583 | 0.409396 | 0.044444 | | N5-N8 depleted | | | | | |
| 6 | 40.5 | 0.002029 | 0.418511 | 0.166667 | | N5-N8 enriched | | | | | |
| 7 | 126 | 0.026923 | 0.296037 | 0.163043 | | N5-N8 enriched | | | | | |
| 8 | 37.8 | 0.002435 | 0.41704 | 0.047619 | | N8-N10 depleted | | | | | |
| 9 | 66.8 | 0.007471 | 0.345679 | 0.072848 | | N8-N10 depleted | | | | | |
| 10 | 91.9 | 0.005826 | 0.330535 | 0.074324 | | N8-N10 depleted | | | | | |
| 11 | 133 | 0.01536 | 0.330202 | 0.100877 | | N8-N10 enriched | | | | | |
| 12 | 93.9 | 0.006505 | 0.303609 | 0.102362 | | N8-N10 enriched | | | | | |
| 13 | 256 | 0.0381 | 0.241082 | 0.385965 | | N8-N10 enriched | | | | | |
| 14 | 91.5 | 0.006618 | 0.295699 | 0.108527 | | N8-N10 enriched | | | | | |
| 15 | 254 | 0.048908 | 0.206897 | 0.554622 | | N8-N10 enriched | | | | | |
| 16 | 101 | 0.011953 | 0.324578 | 0.088608 | | N8-N10 depleted | | | | | |
| 17 | 69.1 | 0.007167 | 0.330176 | 0.074074 | | N8-N10 depleted | | | | | |
| 18 | 177 | 0.045241 | 0.245782 | 0.313901 | | N8-N10 enriched | | | | | |
| 19 | 129 | 0.03654 | 0.254302 | 0.284091 | | N8-N10 enriched | | | | | |
| 20 | 65.8 | 0.00254 | 0.340942 | 0.073394 | | N8-N10 depleted | | | | | |
| 21 | 88 | 0.009328 | 0.324503 | 0.08 | | | | | | | |
| 22 | 136 | 0.018425 | 0.322105 | 0.084577 | | | | | | | |
| 23 | 77.4 | 0.007909 | 0.334957 | 0.084507 | | | | | | | |
| 24 | 1.887 | 0.003301 | 0.375839 | 0.06015 | | | | | | | |
| 25 | 49.4 | 0.003204 | 0.341751 | 0.061224 | | | | | | | |
| 26 | 81.9 | 0.002385 | 0.353881 | 0.05 | | | | | | | |
| 27 | 127 | 0.014054 | 0.334891 | 0.077295 | | | | | | | |

*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Tutorial: Grouping function**

# PetroPlot Tutorial

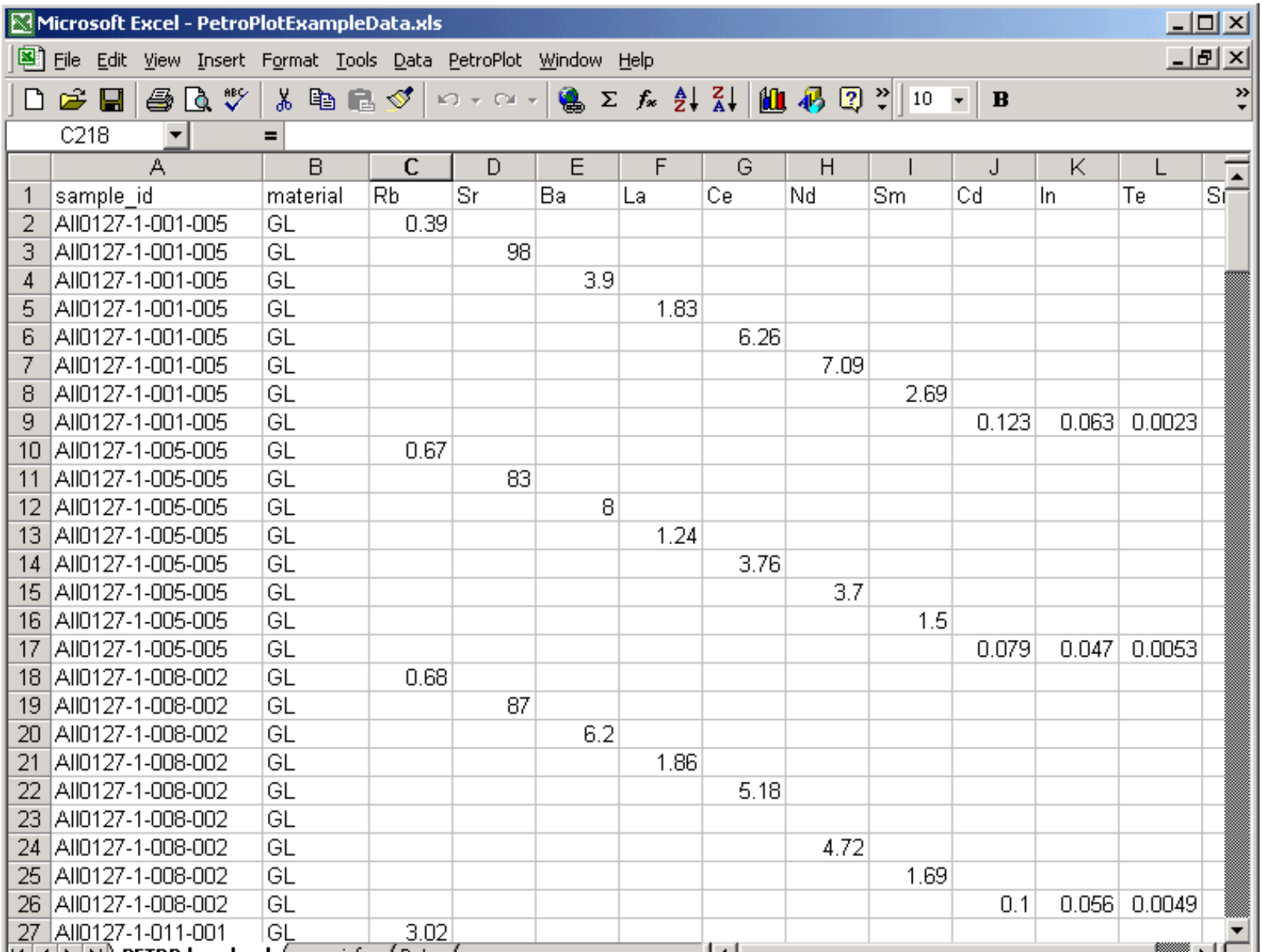
# Compile Rows function

**Purpose:**
Data files downloaded from PETDB and GEOROC are sometimes listed as individual rows sorted by publication or analytical method. A single sample then has data that occupy more than one row. To manually combine all rows of one sample into a single row is very time-consuming, and can even take longer time than typing the data manually.

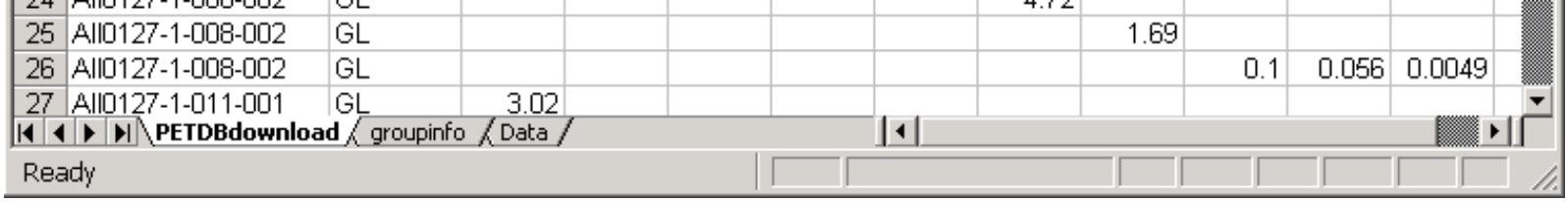
The PetroPlot Compile Rows function automates this task by picking the first value of an element for one sample into a single row in a new sheet. If multiple values exist for that element, the result cell will be marked with an indicative color.

Here we present an example

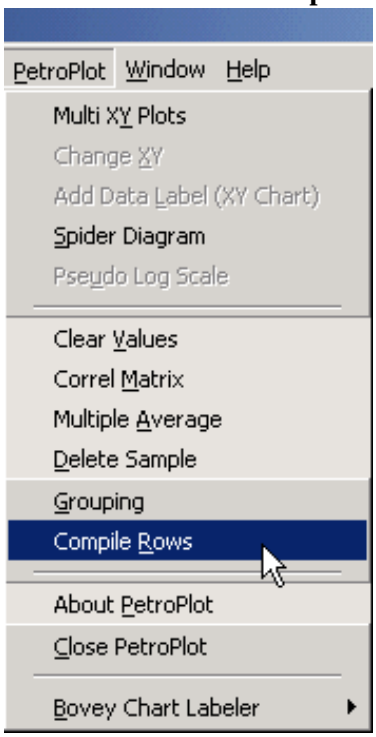
**Start:** Open PetroPlotExampleData.xls in Excel.
Activate the "PETDBdownload" worksheet.
*There is no need to select any range. This PetroPlot function works on the whole sheet.*



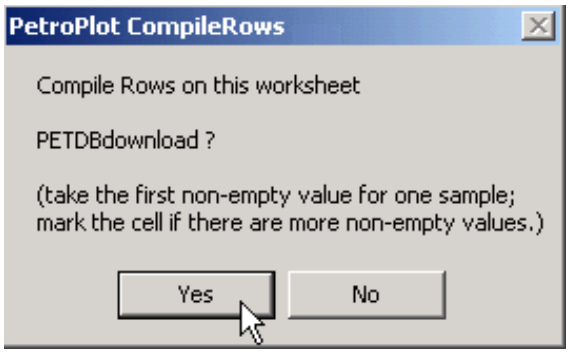

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | sample_id | material | Rb | Sr | Ba | La | Ce | Nd | Sm | Cd | In | Te |
| 2 | AII0127-1-001-005 | GL | 0.39 | | | | | | | | | |
| 3 | AII0127-1-001-005 | GL | | 98 | | | | | | | | |
| 4 | AII0127-1-001-005 | GL | | | 3.9 | | | | | | | |
| 5 | AII0127-1-001-005 | GL | | | | 1.83 | | | | | | |
| 6 | AII0127-1-001-005 | GL | | | | | 6.26 | | | | | |
| 7 | AII0127-1-001-005 | GL | | | | | | 7.09 | | | | |
| 8 | AII0127-1-001-005 | GL | | | | | | | 2.69 | | | |
| 9 | AII0127-1-001-005 | GL | | | | | | | | 0.123 | 0.063 | 0.0023 |
| 10 | AII0127-1-005-005 | GL | 0.67 | | | | | | | | | |
| 11 | AII0127-1-005-005 | GL | | 83 | | | | | | | | |
| 12 | AII0127-1-005-005 | GL | | | 8 | | | | | | | |
| 13 | AII0127-1-005-005 | GL | | | | 1.24 | | | | | | |
| 14 | AII0127-1-005-005 | GL | | | | | 3.76 | | | | | |
| 15 | AII0127-1-005-005 | GL | | | | | | 3.7 | | | | |
| 16 | AII0127-1-005-005 | GL | | | | | | | 1.5 | | | |
| 17 | AII0127-1-005-005 | GL | | | | | | | | 0.079 | 0.047 | 0.0053 |
| 18 | AII0127-1-008-002 | GL | 0.68 | | | | | | | | | |
| 19 | AII0127-1-008-002 | GL | | 87 | | | | | | | | |
| 20 | AII0127-1-008-002 | GL | | | 6.2 | | | | | | | |
| 21 | AII0127-1-008-002 | GL | | | | 1.86 | | | | | | |
| 22 | AII0127-1-008-002 | GL | | | | | 5.18 | | | | | |
| 23 | AII0127-1-008-002 | GL | | | | | | | | | | |
| 24 | AII0127-1-008-002 | GL | | | | | | 4.72 | | | | |
| 25 | AII0127-1-008-002 | GL | | | | | | | 1.69 | | | |
| 26 | AII0127-1-008-002 | GL | | | | | | | | 0.1 | 0.056 | 0.0049 |
| 27 | AII0127-1-011-001 | GL | 3.02 | | | | | | | | | |



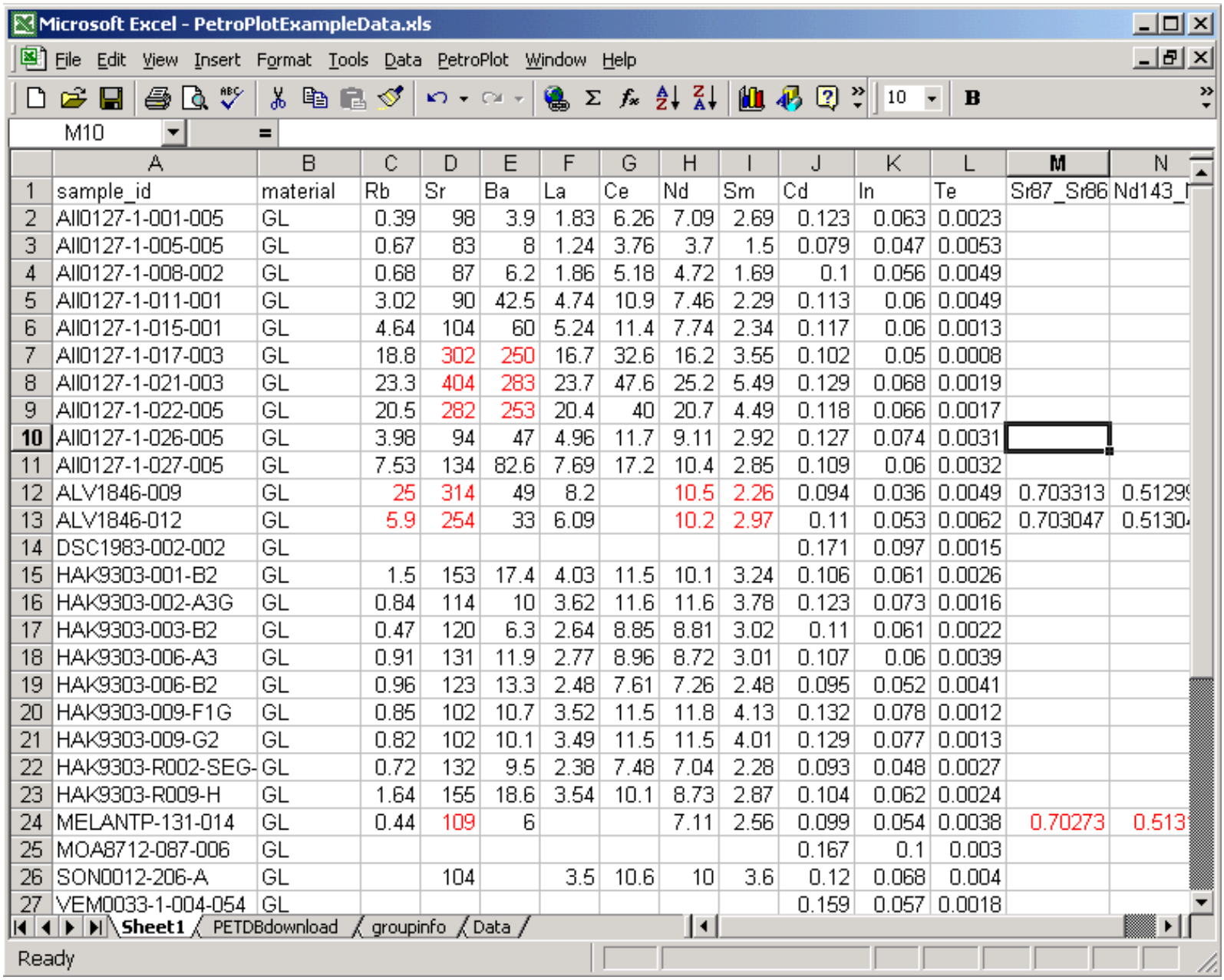

**Click PetroPlot --> Compile Rows.**




**Confirmation window, click "YES"**




**Result:**




| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | sample_id | material | Rb | Sr | Ba | La | Ce | Nd | Sm | Cd | In | Te | Sr87_Sr86 | Nd143_I |
| 2 | AII0127-1-001-005 | GL | 0.39 | 98 | 3.9 | 1.83 | 6.26 | 7.09 | 2.69 | 0.123 | 0.063 | 0.0023 | | |
| 3 | AII0127-1-005-005 | GL | 0.67 | 83 | 8 | 1.24 | 3.76 | 3.7 | 1.5 | 0.079 | 0.047 | 0.0053 | | |
| 4 | AII0127-1-008-002 | GL | 0.68 | 87 | 6.2 | 1.86 | 5.18 | 4.72 | 1.69 | 0.1 | 0.056 | 0.0049 | | |
| 5 | AII0127-1-011-001 | GL | 3.02 | 90 | 42.5 | 4.74 | 10.9 | 7.46 | 2.29 | 0.113 | 0.06 | 0.0049 | | |
| 6 | AII0127-1-015-001 | GL | 4.64 | 104 | 60 | 5.24 | 11.4 | 7.74 | 2.34 | 0.117 | 0.06 | 0.0013 | | |
| 7 | AII0127-1-017-003 | GL | 18.8 | 302 | 250 | 16.7 | 32.6 | 16.2 | 3.55 | 0.102 | 0.05 | 0.0008 | | |
| 8 | AII0127-1-021-003 | GL | 23.3 | 404 | 283 | 23.7 | 47.6 | 25.2 | 5.49 | 0.129 | 0.068 | 0.0019 | | |
| 9 | AII0127-1-022-005 | GL | 20.5 | 282 | 253 | 20.4 | 40 | 20.7 | 4.49 | 0.118 | 0.066 | 0.0017 | | |
| 10 | AII0127-1-026-005 | GL | 3.98 | 94 | 47 | 4.96 | 11.7 | 9.11 | 2.92 | 0.127 | 0.074 | 0.0031 | | |
| 11 | AII0127-1-027-005 | GL | 7.53 | 134 | 82.6 | 7.69 | 17.2 | 10.4 | 2.85 | 0.109 | 0.06 | 0.0032 | | |
| 12 | ALV1846-009 | GL | 25 | 314 | 49 | 8.2 | | 10.5 | 2.26 | 0.094 | 0.036 | 0.0049 | 0.703313 | 0.51299 |
| 13 | ALV1846-012 | GL | 5.9 | 254 | 33 | 6.09 | | 10.2 | 2.97 | 0.11 | 0.053 | 0.0062 | 0.703047 | 0.5130 |
| 14 | DSC1983-002-002 | GL | | | | | | | | 0.171 | 0.097 | 0.0015 | | |
| 15 | HAK9303-001-B2 | GL | 1.5 | 153 | 17.4 | 4.03 | 11.5 | 10.1 | 3.24 | 0.106 | 0.061 | 0.0026 | | |
| 16 | HAK9303-002-A3G | GL | 0.84 | 114 | 10 | 3.62 | 11.6 | 11.6 | 3.78 | 0.123 | 0.073 | 0.0016 | | |
| 17 | HAK9303-003-B2 | GL | 0.47 | 120 | 6.3 | 2.64 | 8.85 | 8.81 | 3.02 | 0.11 | 0.061 | 0.0022 | | |
| 18 | HAK9303-006-A3 | GL | 0.91 | 131 | 11.9 | 2.77 | 8.96 | 8.72 | 3.01 | 0.107 | 0.06 | 0.0039 | | |
| 19 | HAK9303-006-B2 | GL | 0.96 | 123 | 13.3 | 2.48 | 7.61 | 7.26 | 2.48 | 0.095 | 0.052 | 0.0041 | | |
| 20 | HAK9303-009-F1G | GL | 0.85 | 102 | 10.7 | 3.52 | 11.5 | 11.8 | 4.13 | 0.132 | 0.078 | 0.0012 | | |
| 21 | HAK9303-009-G2 | GL | 0.82 | 102 | 10.1 | 3.49 | 11.5 | 11.5 | 4.01 | 0.129 | 0.077 | 0.0013 | | |
| 22 | HAK9303-R002-SEG- | GL | 0.72 | 132 | 9.5 | 2.38 | 7.48 | 7.04 | 2.28 | 0.093 | 0.048 | 0.0027 | | |
| 23 | HAK9303-R009-H | GL | 1.64 | 155 | 18.6 | 3.54 | 10.1 | 8.73 | 2.87 | 0.104 | 0.062 | 0.0024 | | |
| 24 | MELANTP-131-014 | GL | 0.44 | 109 | 6 | | | 7.11 | 2.56 | 0.099 | 0.054 | 0.0038 | 0.70273 | 0.513 |
| 25 | MOA8712-087-006 | GL | | | | | | | | 0.167 | 0.1 | 0.003 | | |
| 26 | SON0012-206-A | GL | | 104 | | 3.5 | 10.6 | 10 | 3.6 | 0.12 | 0.068 | 0.004 | | |
| 27 | VEM0033-1-004-054 | GL | | | | | | | | 0.159 | 0.057 | 0.0018 | | |

*Last modified 05/30/2002, Yong Jun Su*

This line marks the end of **PetroPlot Tutorial: Compile Rows function**

# PetroPlot Tutorial

# Cubic Spline Interpolation functions

**Purpose:**
These functions (Spline and Splint) implement the cubic spline algorithm for interpolating to any x-value given a series of (x,y) pairs. The interpolating function is made up of a sequence of cubic polynomial curves that meet at the given data points with continuous first and second derivatives. Significantly better than linear interpolation for relatively smooth data. See Press et al., Numerical Recipes 2nd Edition, pages113-116.

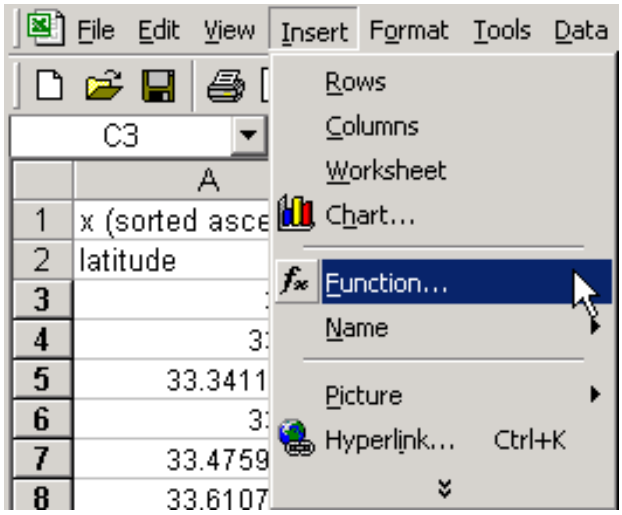
**Start:**
Select a range of cells equal in length to your x and y arrays.

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | x (sorted ascending | y | Spline (table of first derivative valu | | |
| 2 | latitude | depth | | | |
| 3 | 33.17 | 2710 | | | |
| 4 | 33.256 | 2294 | | | |
| 5 | 33.34118333 | 2097 | | | |
| 6 | 33.342 | 2099 | | | |
| 7 | 33.47596667 | 2497 | | | |
| 8 | 33.61078333 | 4377 | | | |
| 9 | 33.65 | 3907 | | | |
| 10 | 33.72 | 3028 | | | |
| 11 | 33.7225 | 3860 | | | |
| 12 | 33.76536667 | 3562 | | | |
| 13 | 33.81433333 | 3388 | | | |
| 184 | 40.16283333 | 2748 | | | |
| 185 | 40.20366667 | 2914 | | | |
| 186 | 40.2385 | 2559 | | | |
| 187 | 40.26666667 | 2390 | | | |
| 188 | 40.27133333 | 2399 | | | |
| 189 | 40.2905 | 2420 | | | |
| 190 | 40.31816667 | 2480 | | | |
| 191 | 40.38333333 | 2613 | | | |
| 192 | 40.421 | 2757 | | | |
| 193 | 40.48133333 | 2835 | | | |
| 194 | 40.5225 | 2920 | | | |
| 195 | | | | | |
| 196 | | | | | |
| 197 | | | | | |
| 198 | | | | | |

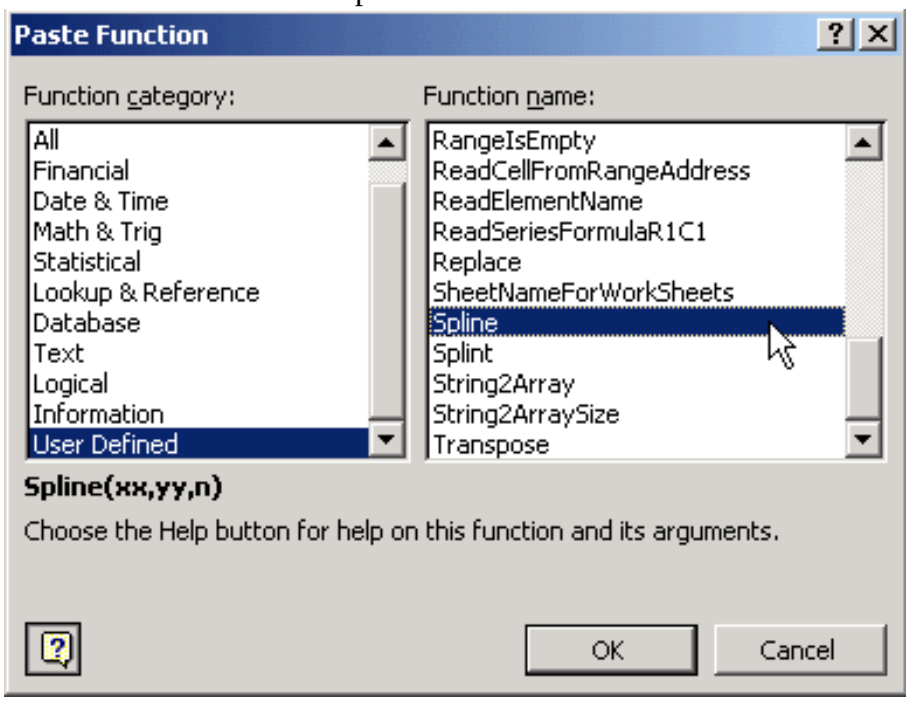
spline | PETDBdownload | groupinfo | Data

**Step 1:**

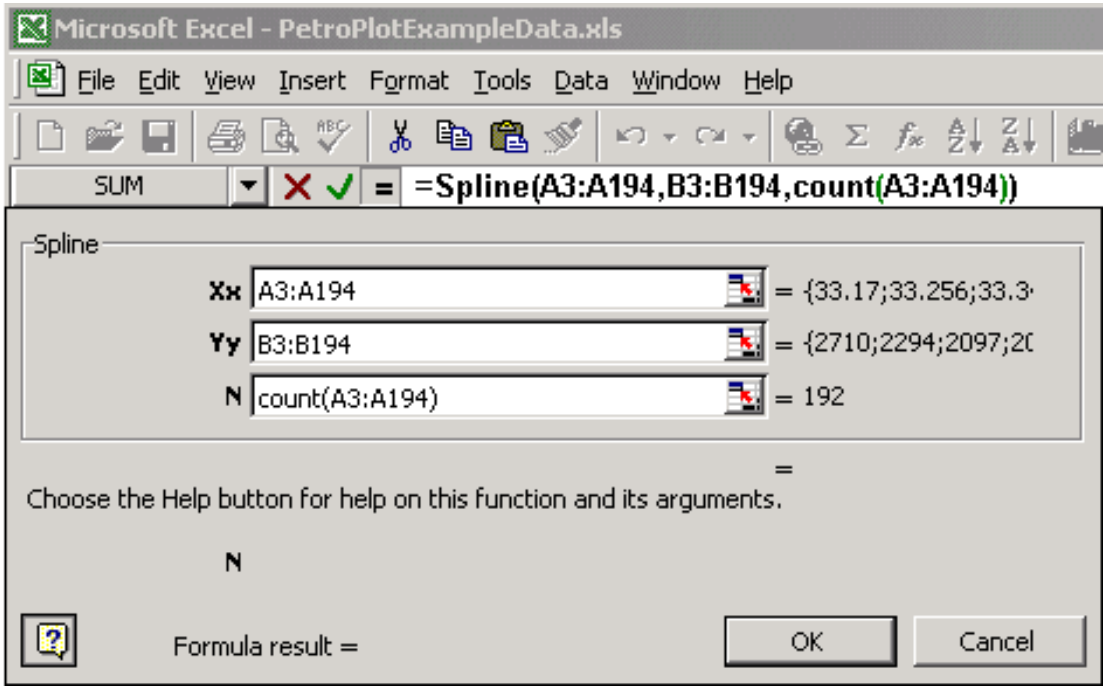
Choose Insert->Function.




Choose ->User defined->Spline.




Enter the range of x values, the range of y values, and the number of data pairs.



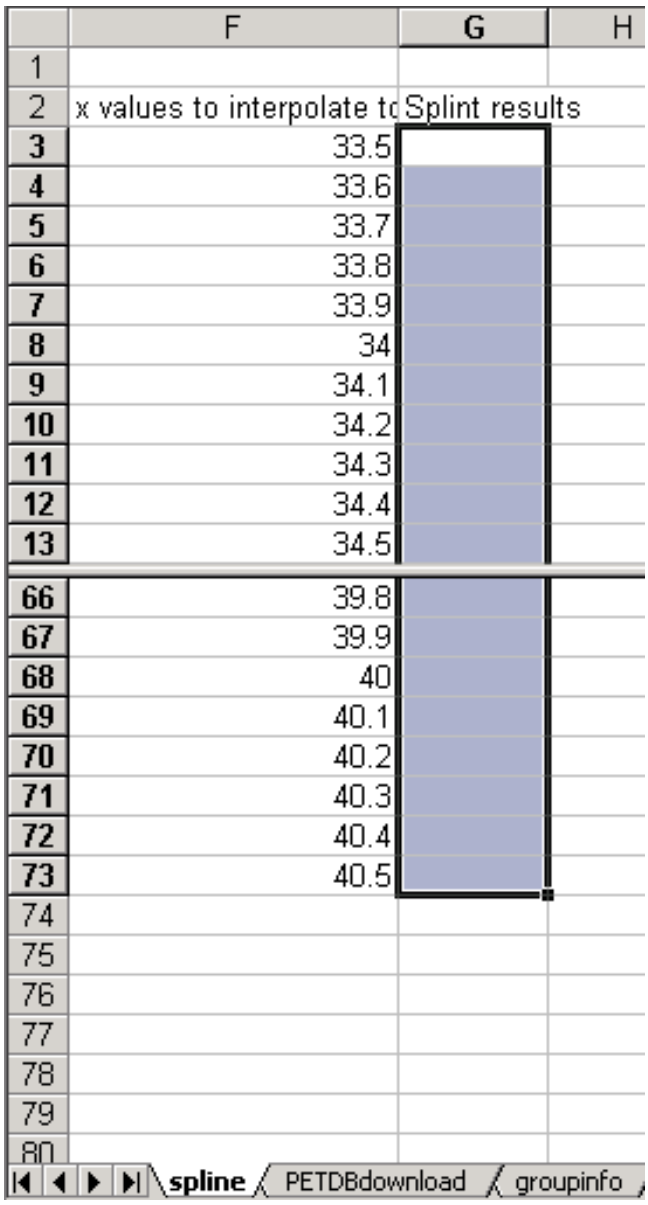

To fill the whole selection: Type Command+Return(Mac) or Ctrl+Shift+Enter(PC)

C3 = {=Spline(A3:A194,B3:B194,COUNT(A3:A194))}

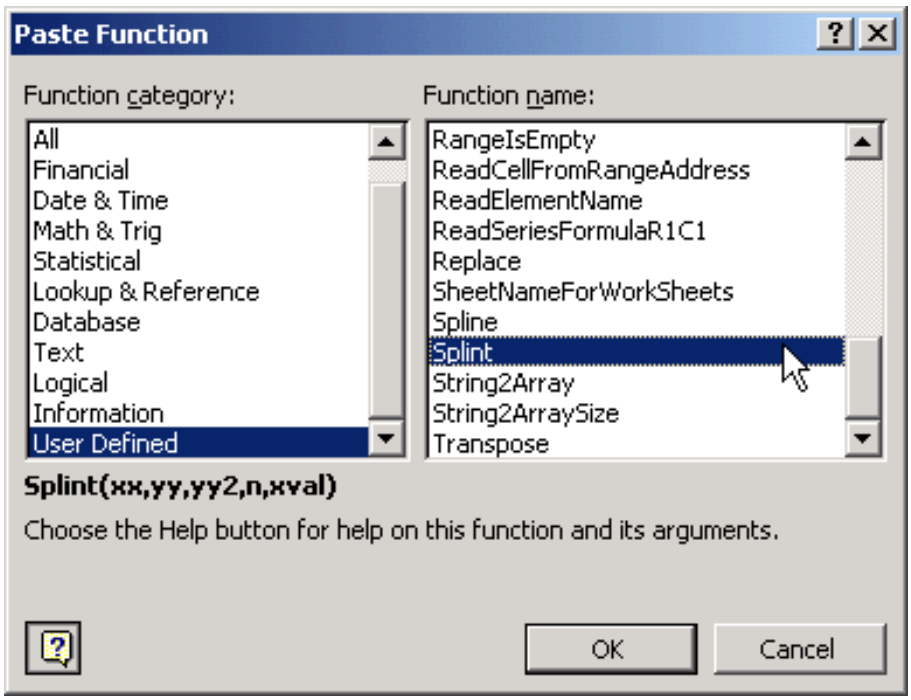
| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | x (sorted ascending) | y | Spline (table of first derivative values) | | |
| 2 | latitude | depth | | | |
| 3 | 33.17 | 2710 | 0 | | |
| 4 | 33.256 | 2294 | 3277.50744 | | |
| 5 | 33.34118333 | 2097 | 164647.146 | | |
| 6 | 33.342 | 2099 | -35102.0651 | | |
| 7 | 33.47596667 | 2497 | 93003.2618 | | |
| 8 | 33.61078333 | 4377 | 152435.93 | | |
| 9 | 33.65 | 3907 | -5639786.78 | | |
| 10 | 33.72 | 3028 | 17464353.5 | | |
| 11 | 33.7225 | 3860 | -26161327.8 | | |
| 12 | 33.76536667 | 3562 | 6800922.14 | | |
| 13 | 33.81433333 | 3388 | -2190544.77 | | |
| 14 | 33.84 | 3356 | 303776.687 | | |
| 15 | 33.88433333 | 3167 | -99319.8887 | | |

This is a table of the numerical estimates of the first derivative of your function at each data point. You only have to do this once to generate the interpolating function, you can now use it multiple times for various values of x.

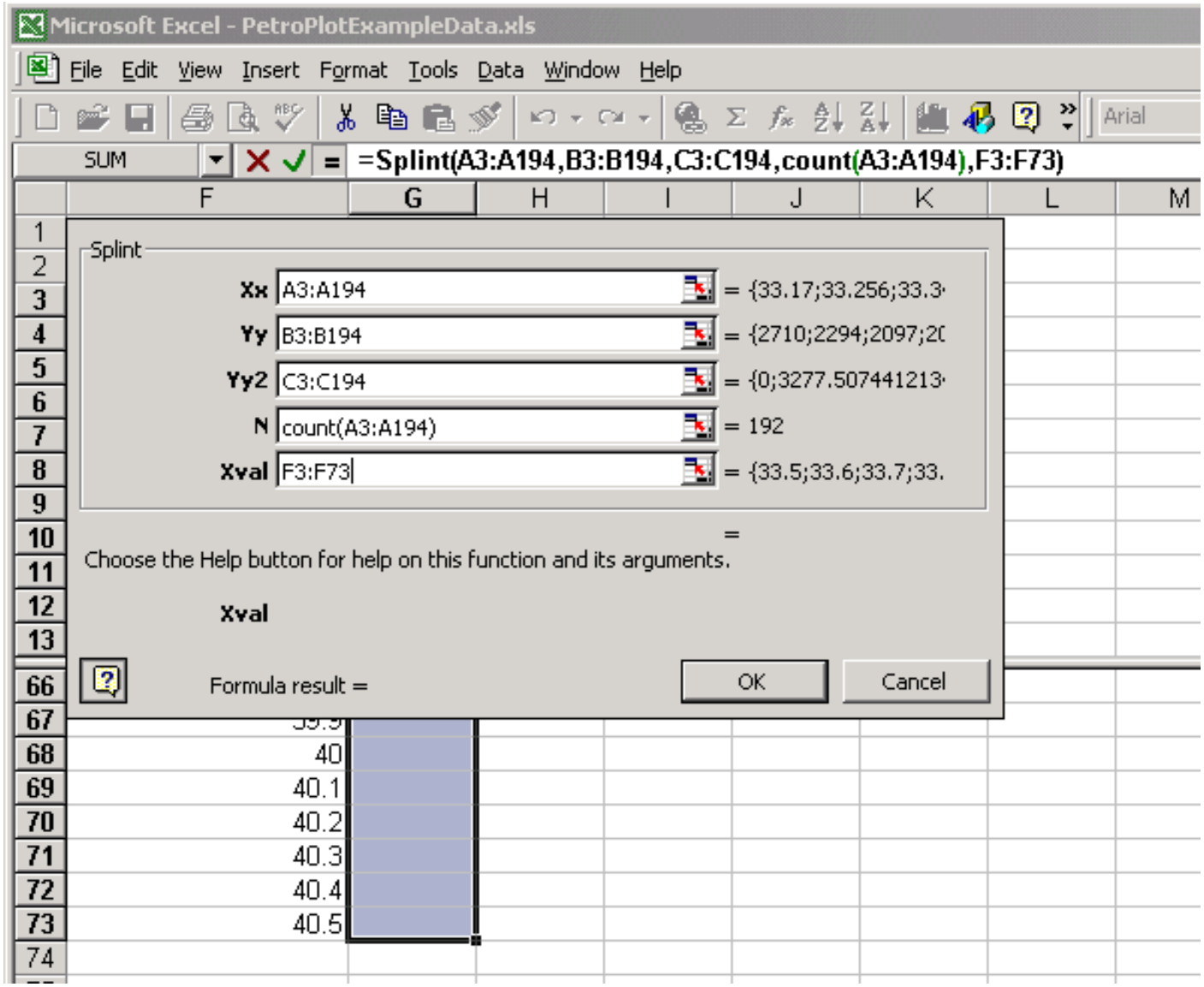
**Step 2:**
Now, to interpolate to any x value.
Select a range of cells equal in length to your x.



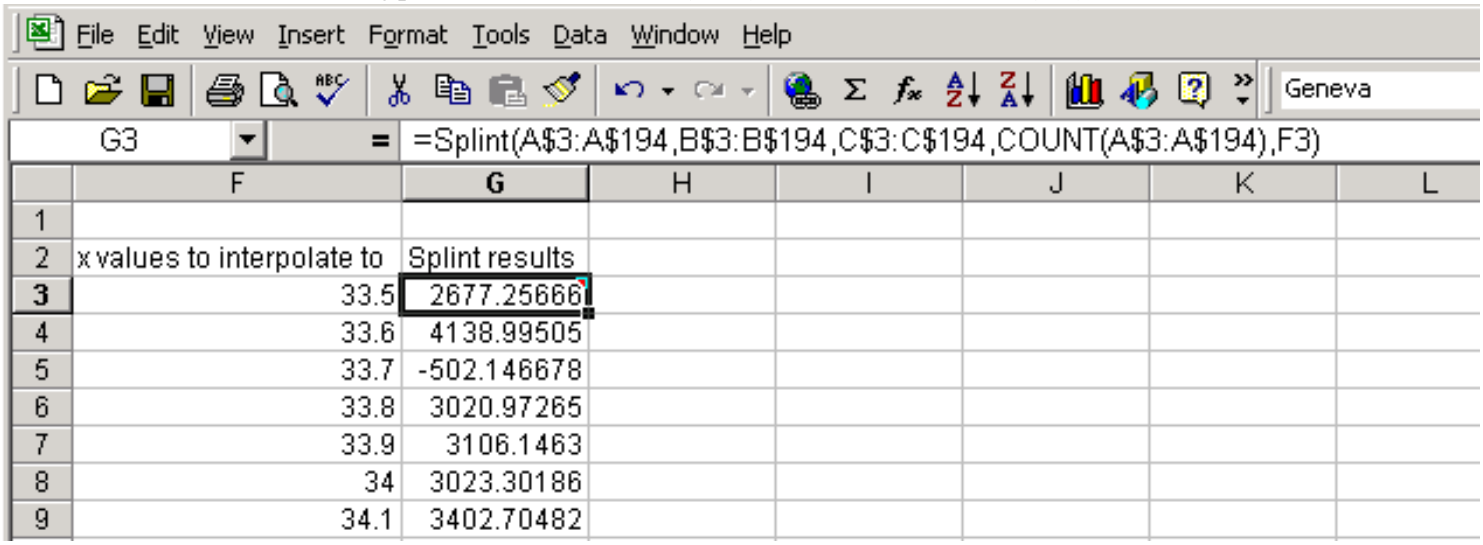

Choose Insert->Function->User defined->Splint.




Enter the ranges of x values, of y values, of output from Spline, the number of data pairs, and the x value at which to evaluate the interpolating function.

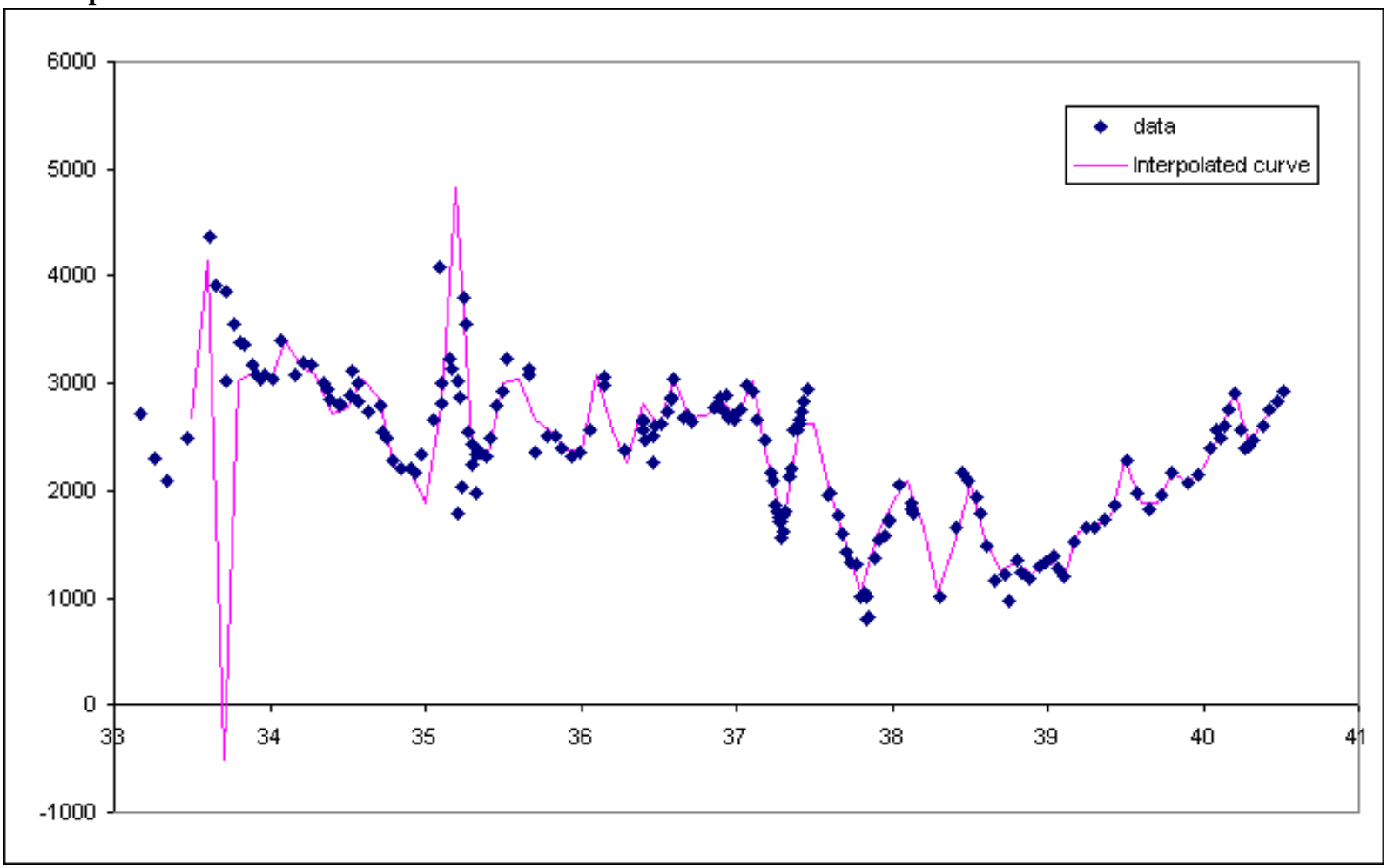



To fill the whole selection: Type Command+Return(Mac) or Ctrl+Shift+Enter(PC)




| | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | x values to interpolate to | Splint results | | | | | |
| 3 | 33.5 | 2677.25666 | | | | | |
| 4 | 33.6 | 4138.99505 | | | | | |
| 5 | 33.7 | -502.146678 | | | | | |
| 6 | 33.8 | 3020.97265 | | | | | |
| 7 | 33.9 | 3106.1463 | | | | | |
| 8 | 34 | 3023.30186 | | | | | |
| 9 | 34.1 | 3402.70482 | | | | | |

**Result plotted.**




**Problems:**

(1) The x-values must all be distinct, or the Spline routine will encounter a division by zero and fail.

(2) The data points must be sorted so that the x-values are either monotonically ascending or descending; otherwise the Splint function will fail to find the right pair of points that bracket the desired x-value.
(3) If the data are very noisy, the interpolating function can have wild swings to nonsensical values.

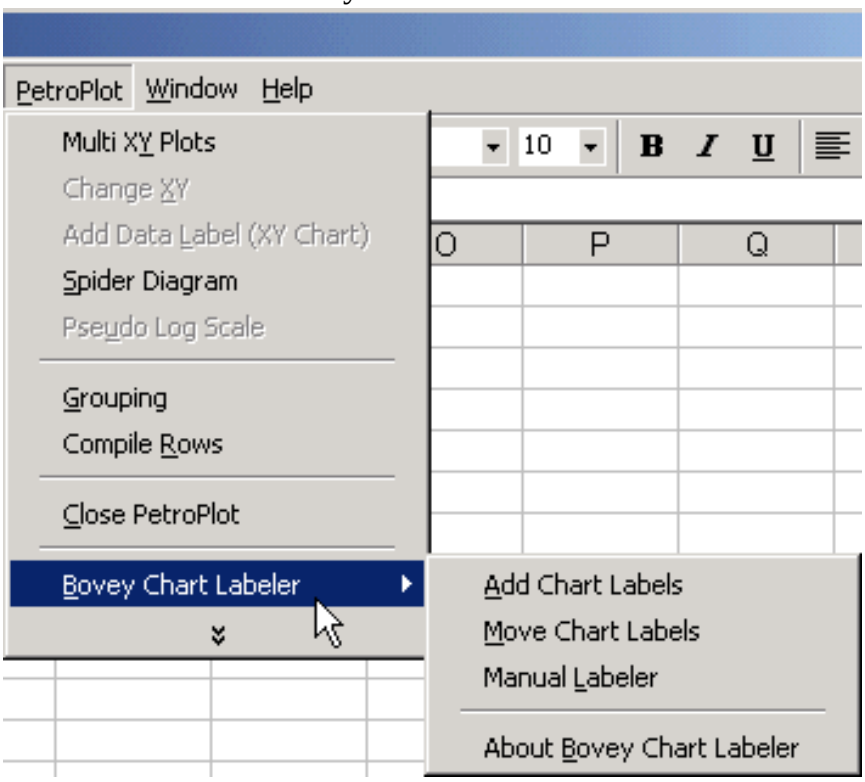
*Last modified 05/30/2002, Paul D. Asimow and Yong Jun Su.*
This line marks the end of **PetroPlot Tutorial: Cubic Spline Interpolation functions**

# PetroPlot Tutorial

# Bovey Chart Labeler

**Code Source:**
We imported a set of label tools written by **Rob Bovey** (www.appspro.com).
The version is the XY Chart Labeler 6.22.

**The Bovey Chart Labeler menu**
Click PetroPlot --> Bovey Chart Labeler




**********
*** Start of imported text from www.appspro.com

The XY Chart Labeler provides the following features:

- ***Add XY Chart Labels*** - You can add labels to the points on your XY Chart data series from any selected range in the workbook. The label range can be oriented vertically or horizontally; named ranges are also supported. The labeler will pick up and apply the source range formatting characteristics to the data labels as well as live-link the data labels to the source range. Chages in the source range text will be immediately reflected in the corresponding data label.
- ***Move XY Chart Labels*** - You can move the entire set of data labels or single specific labels in 1 point increments in any direction. Movement is dynamic, accomplished by the use of an arrow dialog, so you can

see the results of your movements as you press the arrow keys.

- ***Manual Labeler*** - There are times when you don't want to label an entire data series, but rather use data labels to highlight specific data points. The manual labeler allows you to do this. As with the normal Add Labels function, you can specify a range to use for the label. The manual labeler also allows you to type in label text directly.

And the best part of all is that even though this utility is called the XY Chart Labeler, it is capable of labeling any type of Excel chart series that will accept data labels. The specific labeling options that are available will vary depending on the chart type of the series one is attempting to label.

Download the XY Chart Labeler 6.22 (for Excel 97/2000/2002)

*** End of imported text from www.appspro.com
**********

**Comparison of PetroPlot "Add Data Label (XY Chart)" with Bovey Chart Labeler:**

***PetroPlot Labeler***

- Adds label for a selected point. You don't need to know the point order ahead of adding the label.
- Adds label for all series in an XY Scatter chart at once.

***Bovey Chart Labeler***

- Is capable of labeling any type of Excel chart series that will accept data labels.
- Can move all labels for a series.

*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Tutorial: Bovey Chart Labeler**

# PetroPlot Known Problems

# Install PetroPlot.xla on Macintosh

**Problem:**
On some old MAC OS, the installation of PetroPlot Add-In may cause Excel to take a long time to start.

**Solution:**
Do not install the Add-In. Manually open the PetroPlot.xla each time you need to use it.

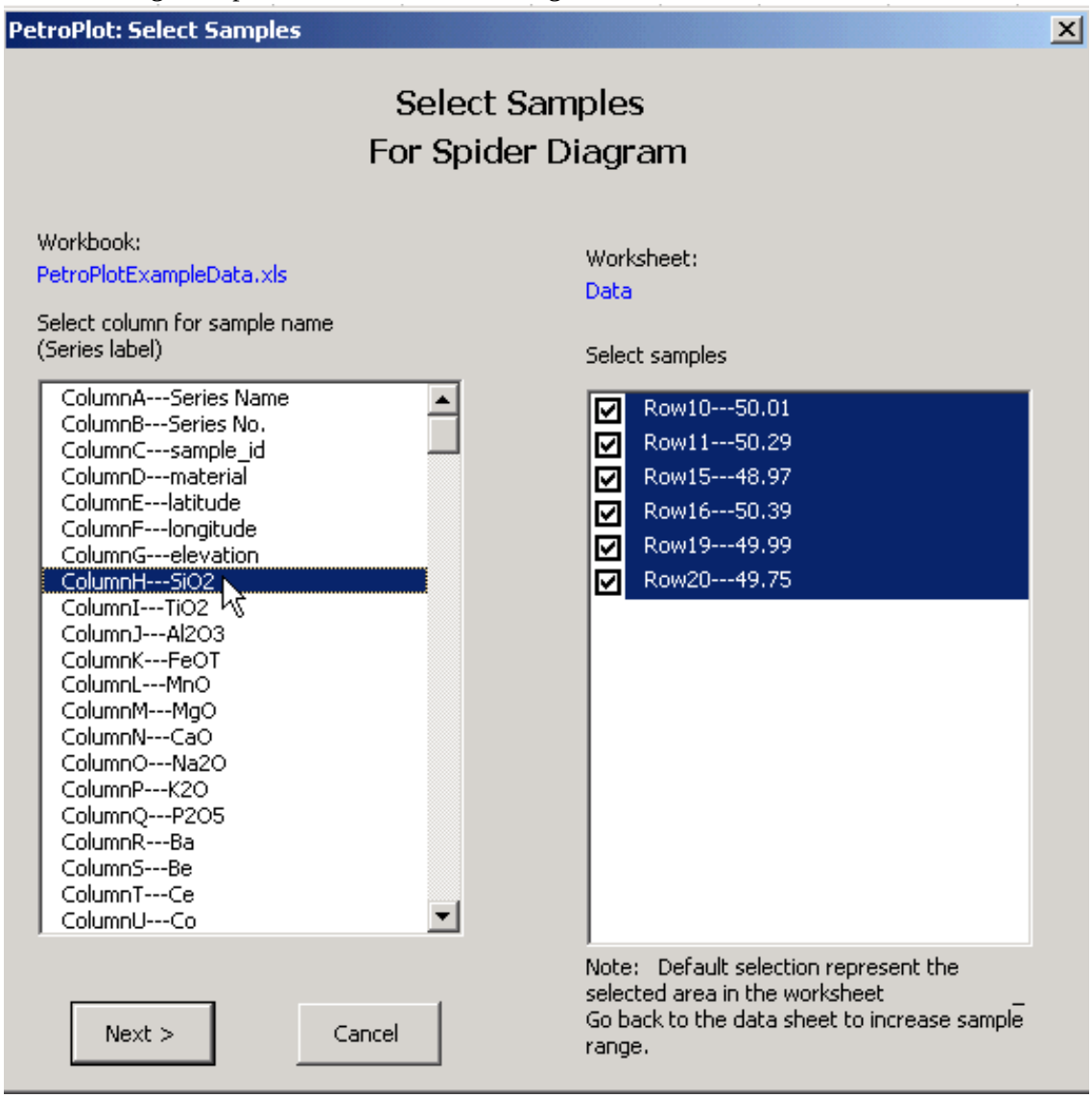
*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot known problems: Install PetroPlot.xla on Macintosh**

# PetroPlot Known Problems

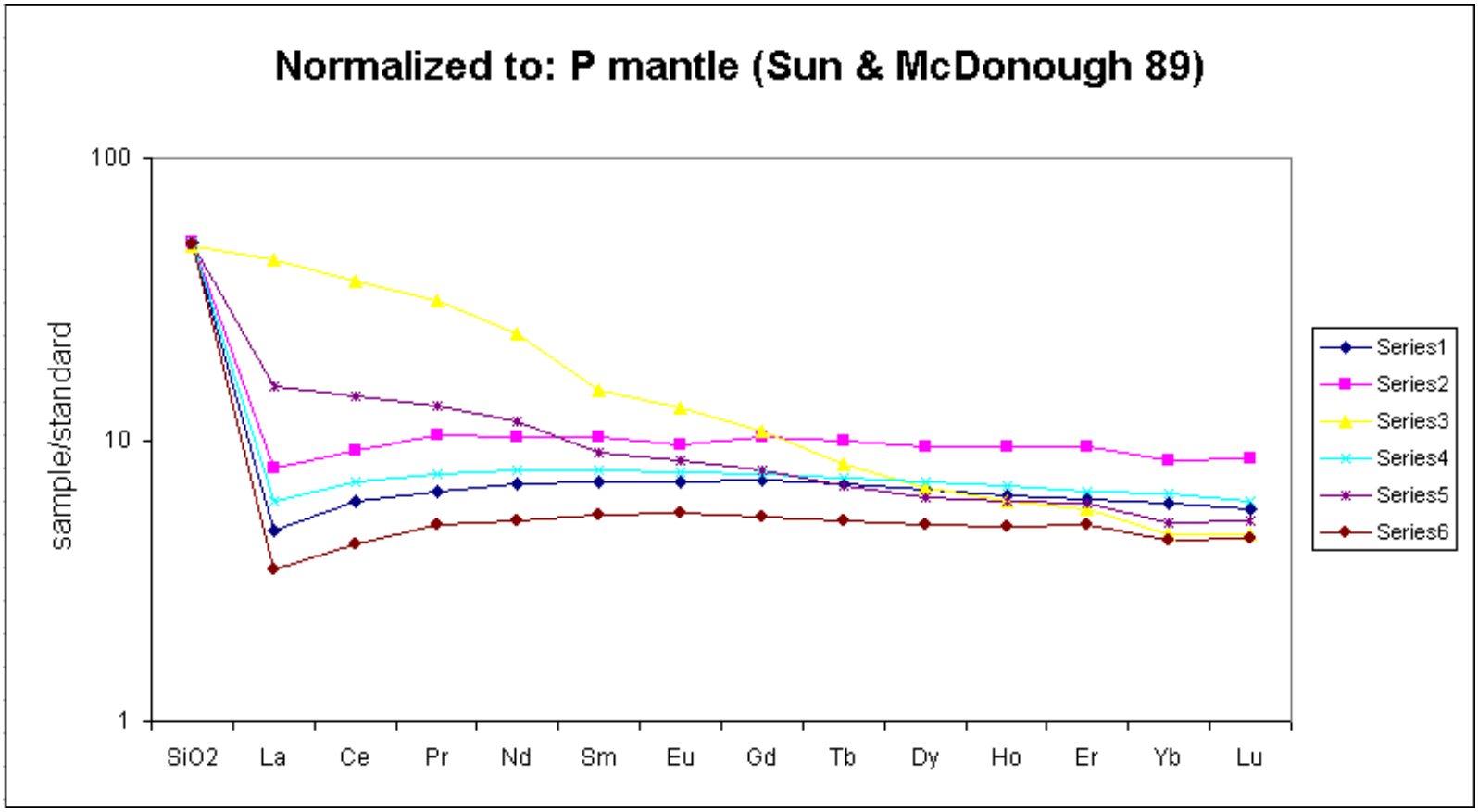
# Use numbers as legend for spidergrams

**Problem:**
If you use numbers as legends for spider diagram, the plots will have errors.

The following example uses "SiO2" values as legend.




The result looks like:




**Solution:**
Avoid using numbers as legends for spider diagram.
Pay special attention to samples names which look like "23", "3/4", "3-4" etc.
Excel might treat "3/4" or "3-4" as "4-Mar", and count it as a number.

*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot known problems: Use numbers as legend for spidergrams**

# PetroPlot Known Problems

# Empty cells when using "Multi-XY Plots"

**Problem:**
If there exist empty cells in the selected data range, the PetroPlot program might hang up.

In the following example, trace element data are not complete.

Microsoft Excel - Fern_petroplot.xls

File Edit View Insert Format Tools Data PetroPlot Window Help

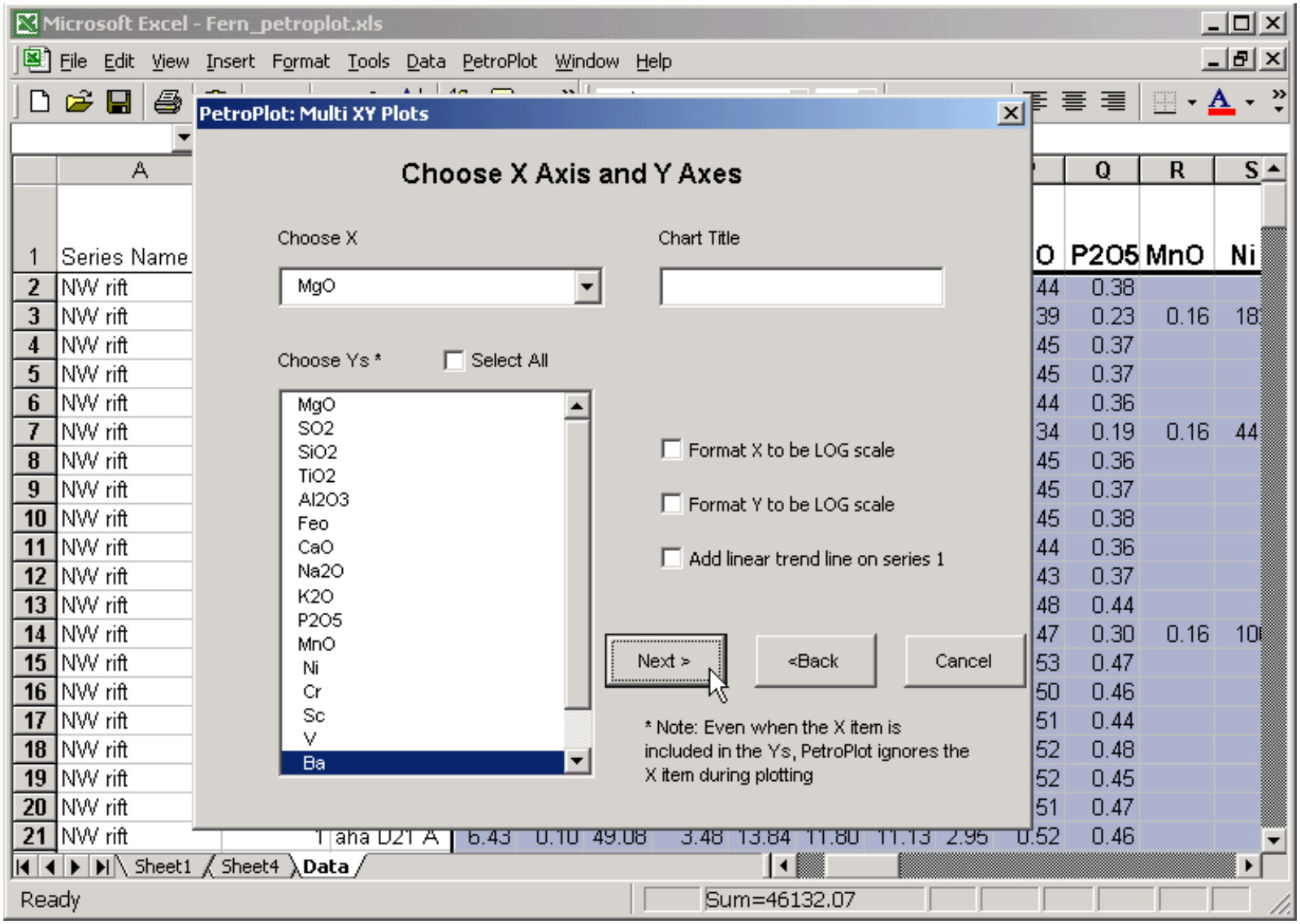
C80 = AHA D28 D

| | A | B | C | N | O | P | Q | R | S | T | U | V | W | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Series Name | Series No. | sample_id | CaO | Na2 | K2O | P2O5 | MnO | Ni | Cr | Sc | V | Ba | Rb |
| 2 | NW rift | 1 | aha D18 A | 11.53 | 2.73 | 0.44 | 0.38 | | | | | | | |
| 3 | NW rift | 1 | aha D18 A | 12.00 | 2.37 | 0.39 | 0.23 | 0.16 | 182 | 585 | 25 | 282 | 57 | 3 |
| 4 | NW rift | 1 | aha D18 B | 11.54 | 2.76 | 0.45 | 0.37 | | | | | | | |
| 5 | NW rift | 1 | aha D18 C | 11.37 | 2.82 | 0.45 | 0.37 | | | | | | | |
| 6 | NW rift | 1 | aha D19 A | 11.26 | 2.75 | 0.44 | 0.36 | | | | | | | |
| 7 | NW rift | 1 | aha D19 A | 10.24 | 2.24 | 0.34 | 0.19 | 0.16 | 441 | 943 | 25 | 236 | 52 | 2 |
| 8 | NW rift | 1 | aha D19 B | 11.24 | 2.75 | 0.45 | 0.36 | | | | | | | |
| 9 | NW rift | 1 | aha D19 C | 11.30 | 2.84 | 0.45 | 0.37 | | | | | | | |
| 10 | NW rift | 1 | aha D19 D | 11.20 | 2.79 | 0.45 | 0.38 | | | | | | | |
| 11 | NW rift | 1 | aha D19 E | 11.35 | 2.78 | 0.44 | 0.36 | | | | | | | |
| 12 | NW rift | 1 | aha D19 F | 11.37 | 2.80 | 0.43 | 0.37 | | | | | | | |
| 13 | NW rift | 1 | aha D20 A | 11.22 | 2.97 | 0.48 | 0.44 | | | | | | | |
| 14 | NW rift | 1 | aha D20 A | 11.85 | 2.76 | 0.47 | 0.30 | 0.16 | 106 | 275 | 33 | 310 | 88 | 7 |
| 15 | NW rift | 1 | aha D20 B | 11.08 | 3.09 | 0.53 | 0.47 | | | | | | | |
| 16 | NW rift | 1 | aha D20 C | 11.24 | 3.02 | 0.50 | 0.46 | | | | | | | |
| 17 | NW rift | 1 | aha D20 D | 11.15 | 2.97 | 0.51 | 0.44 | | | | | | | |
| 18 | NW rift | 1 | aha D20 E | 11.11 | 3.00 | 0.52 | 0.48 | | | | | | | |
| 19 | NW rift | 1 | aha D20 F | 11.19 | 3.02 | 0.52 | 0.45 | | | | | | | |
| 20 | NW rift | 1 | aha D20 I | 11.11 | 2.96 | 0.51 | 0.47 | | | | | | | |
| 21 | NW rift | 1 | aha D21 A | 11.13 | 2.95 | 0.52 | 0.46 | | | | | | | |

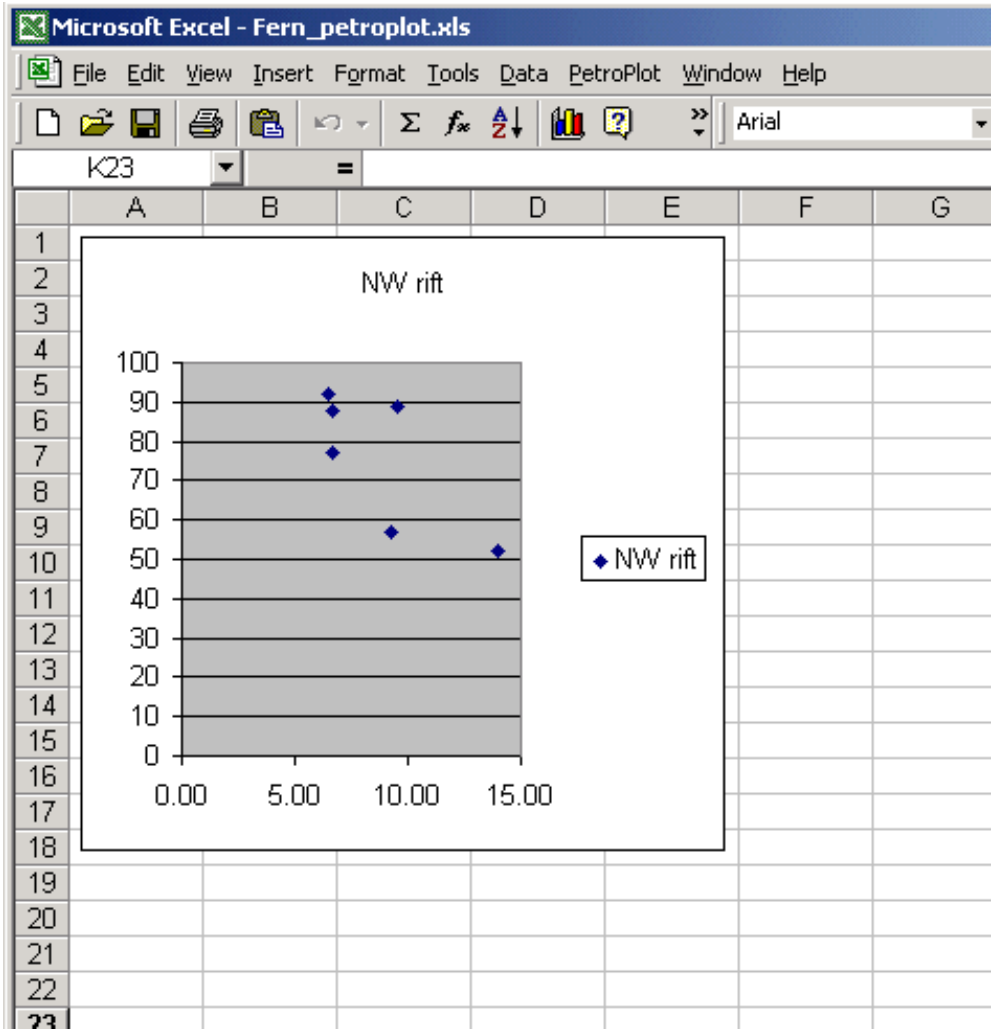
Sheet1 Sheet4 Data

Ready

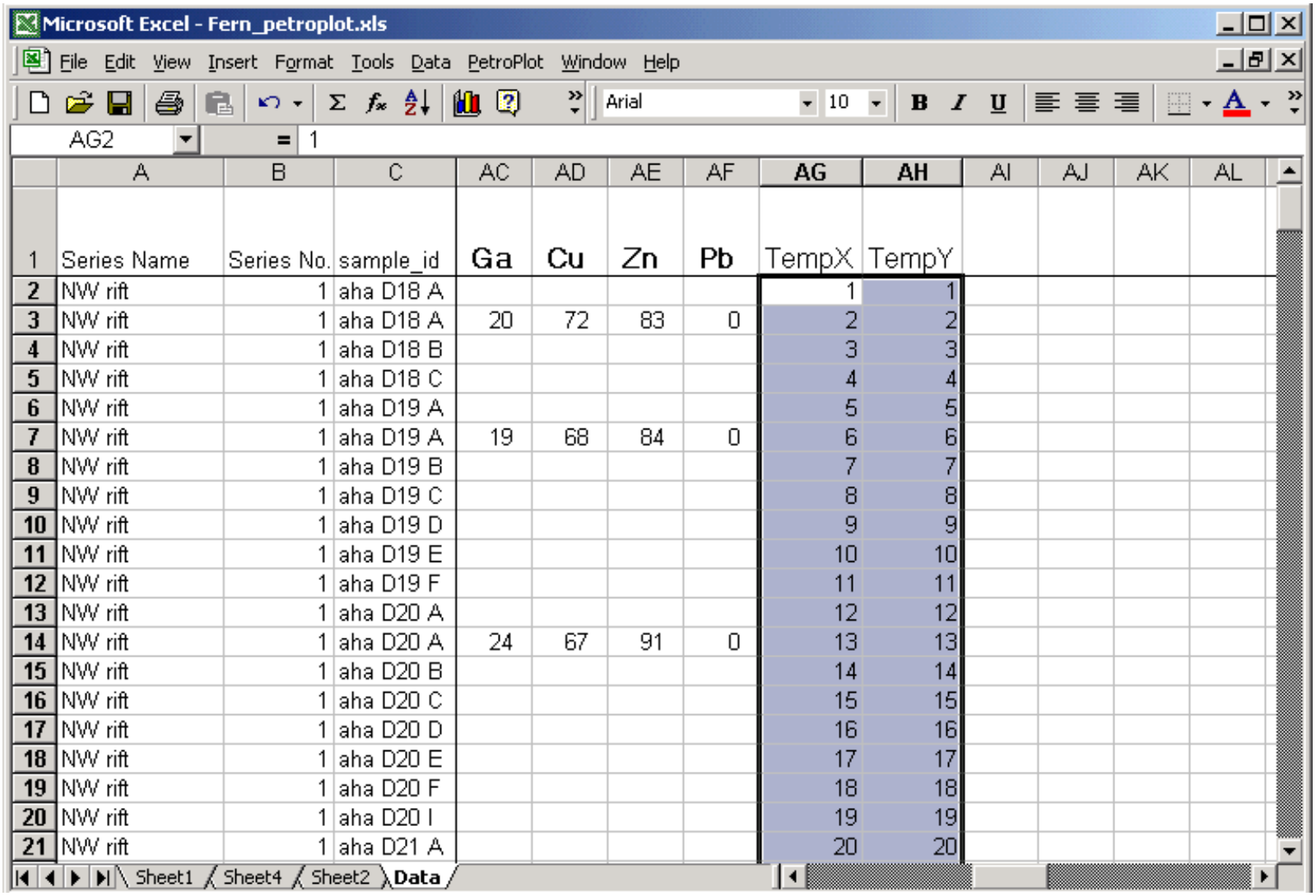
Now we select a data range and run the PetroPlot "Multi-XY Plot" function




PetroPlot hangs up, gives only one series even we selected all data.



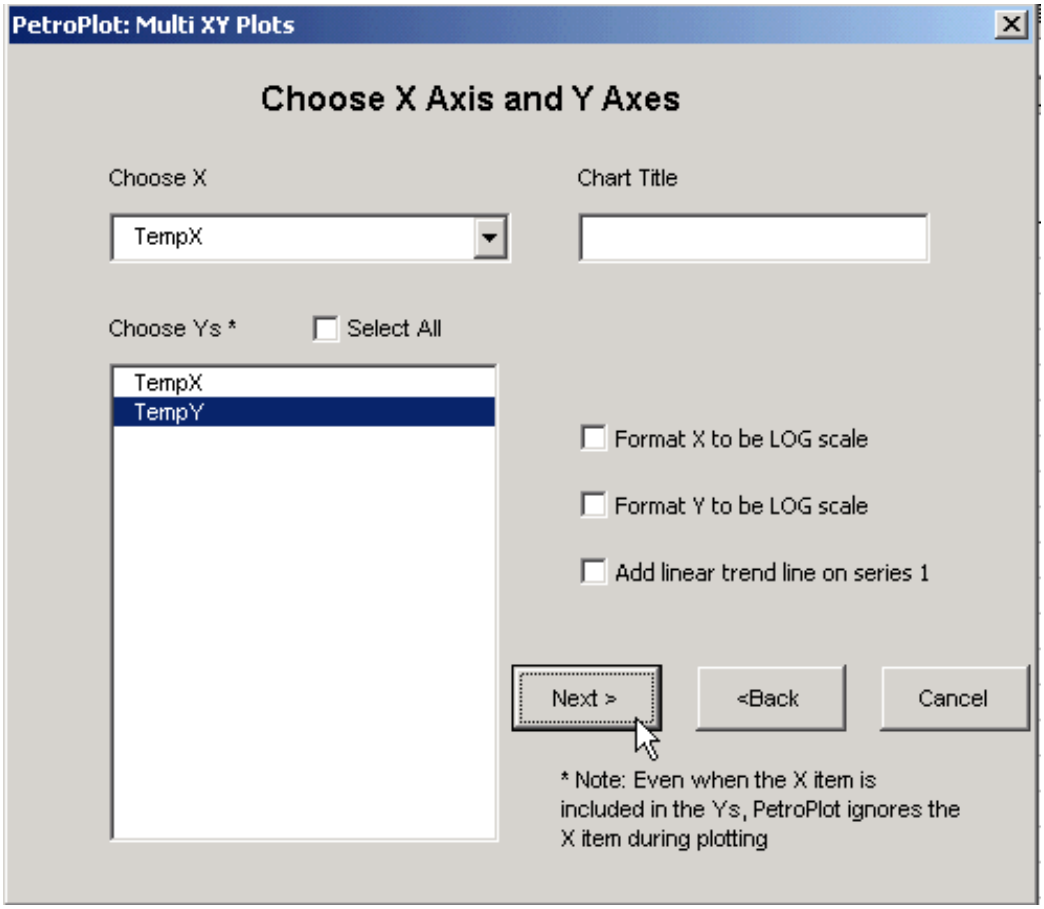

**Solution:**
Create two columns with sequential data.



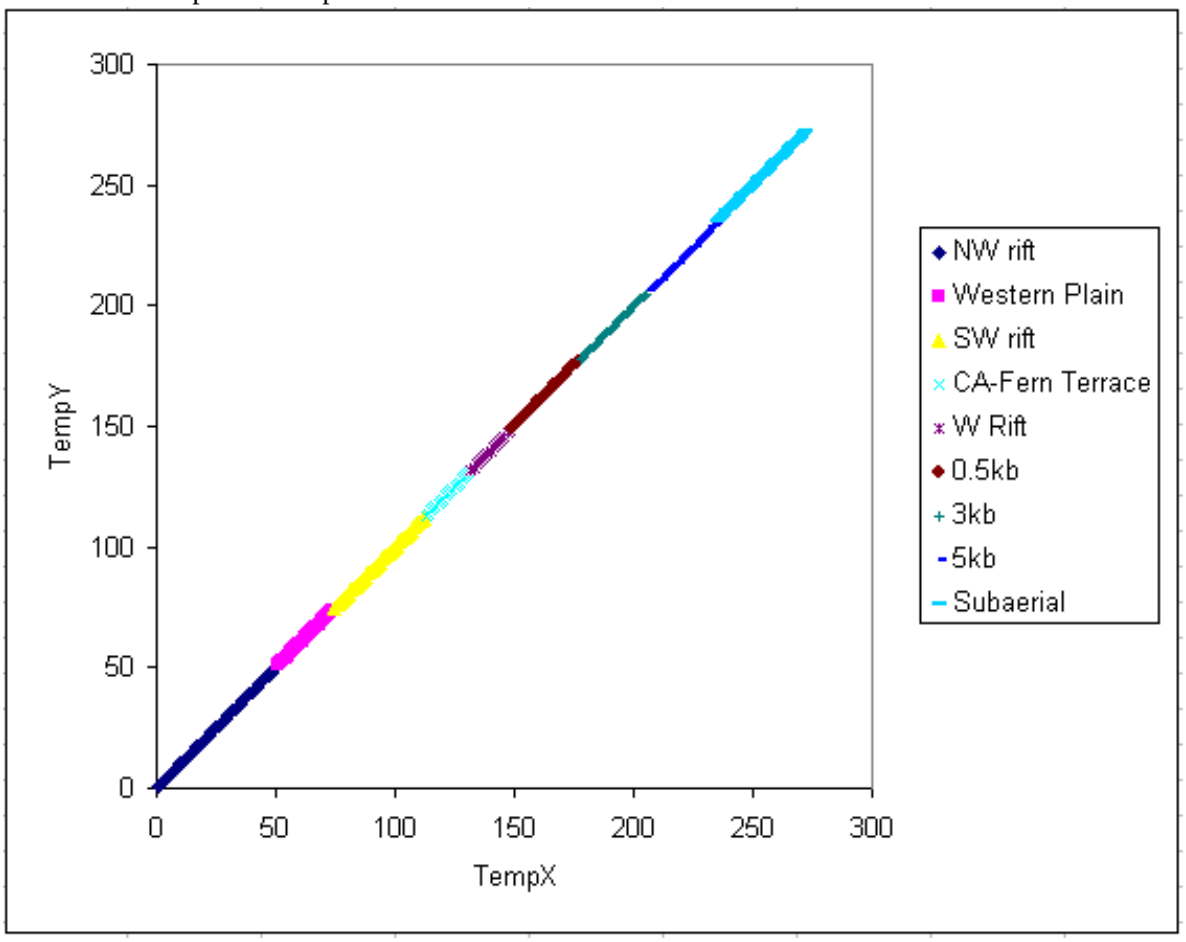

| | A | B | C | AC | AD | AE | AF | AG | AH | AI | AJ | AK | AL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Series Name | Series No. | sample_id | Ga | Cu | Zn | Pb | TempX | TempY | | | | |
| 2 | NW rift | 1 | aha D18 A | | | | | 1 | 1 | | | | |
| 3 | NW rift | 1 | aha D18 A | 20 | 72 | 83 | 0 | 2 | 2 | | | | |
| 4 | NW rift | 1 | aha D18 B | | | | | 3 | 3 | | | | |
| 5 | NW rift | 1 | aha D18 C | | | | | 4 | 4 | | | | |
| 6 | NW rift | 1 | aha D19 A | | | | | 5 | 5 | | | | |
| 7 | NW rift | 1 | aha D19 A | 19 | 68 | 84 | 0 | 6 | 6 | | | | |
| 8 | NW rift | 1 | aha D19 B | | | | | 7 | 7 | | | | |
| 9 | NW rift | 1 | aha D19 C | | | | | 8 | 8 | | | | |
| 10 | NW rift | 1 | aha D19 D | | | | | 9 | 9 | | | | |
| 11 | NW rift | 1 | aha D19 E | | | | | 10 | 10 | | | | |
| 12 | NW rift | 1 | aha D19 F | | | | | 11 | 11 | | | | |
| 13 | NW rift | 1 | aha D20 A | | | | | 12 | 12 | | | | |
| 14 | NW rift | 1 | aha D20 A | 24 | 67 | 91 | 0 | 13 | 13 | | | | |
| 15 | NW rift | 1 | aha D20 B | | | | | 14 | 14 | | | | |
| 16 | NW rift | 1 | aha D20 C | | | | | 15 | 15 | | | | |
| 17 | NW rift | 1 | aha D20 D | | | | | 16 | 16 | | | | |
| 18 | NW rift | 1 | aha D20 E | | | | | 17 | 17 | | | | |
| 19 | NW rift | 1 | aha D20 F | | | | | 18 | 18 | | | | |
| 20 | NW rift | 1 | aha D20 I | | | | | 19 | 19 | | | | |
| 21 | NW rift | 1 | aha D21 A | | | | | 20 | 20 | | | | |



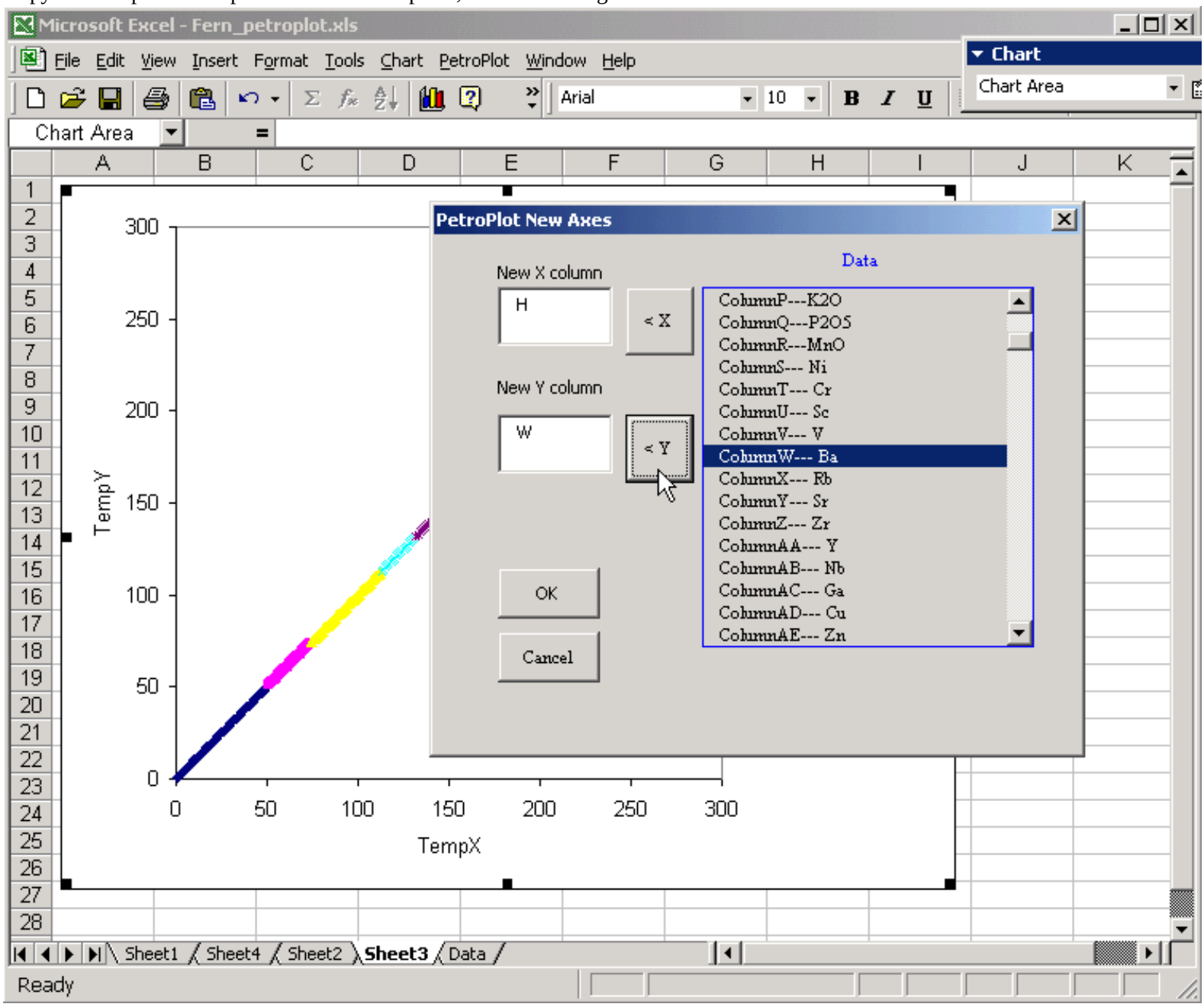
Run the PetroPlot "Multi-XY Plot" function



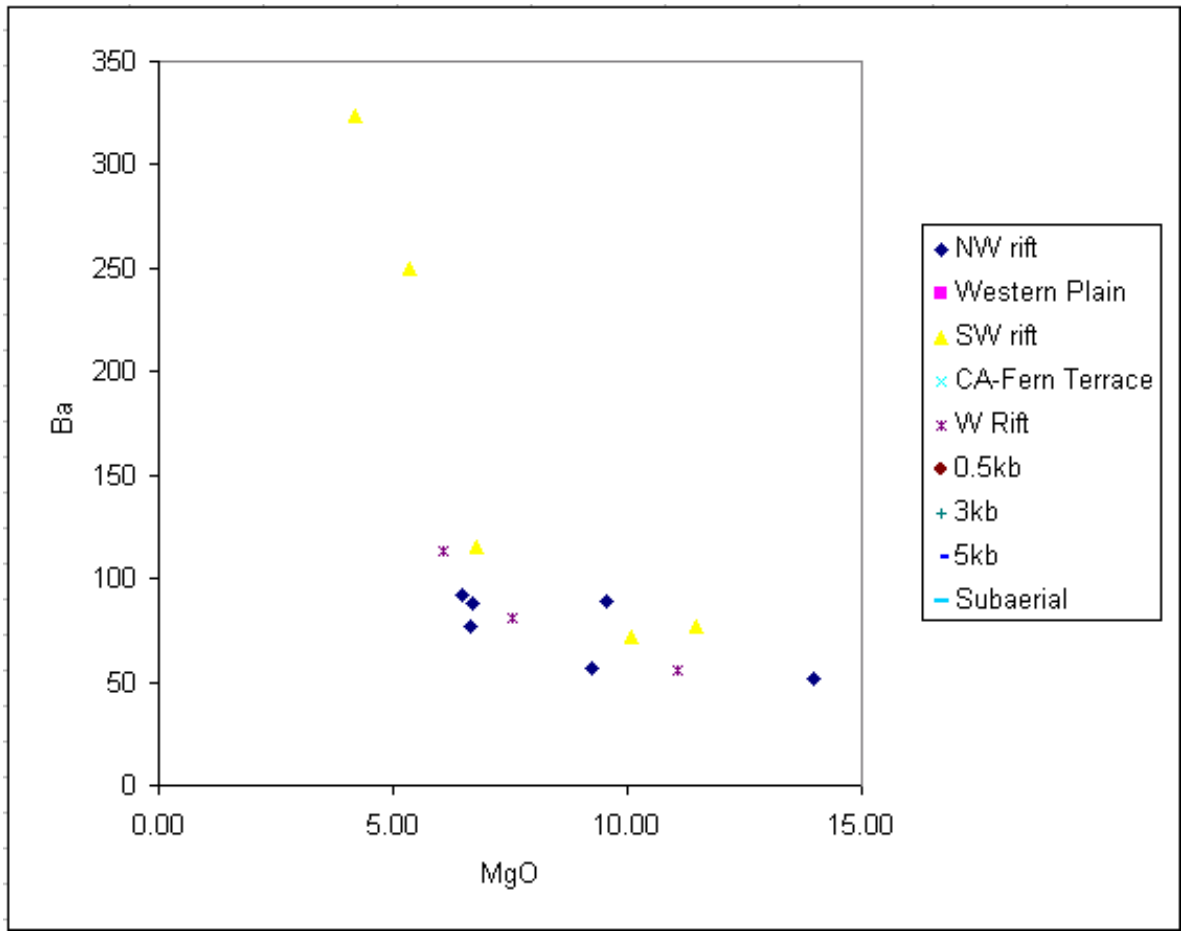

Format the TempX vs TempY chart



Copy the TempX vs TempY chart to another place, and run "Change XY" function




The result.




*Last modified 05/30/2002, Yong Jun Su*

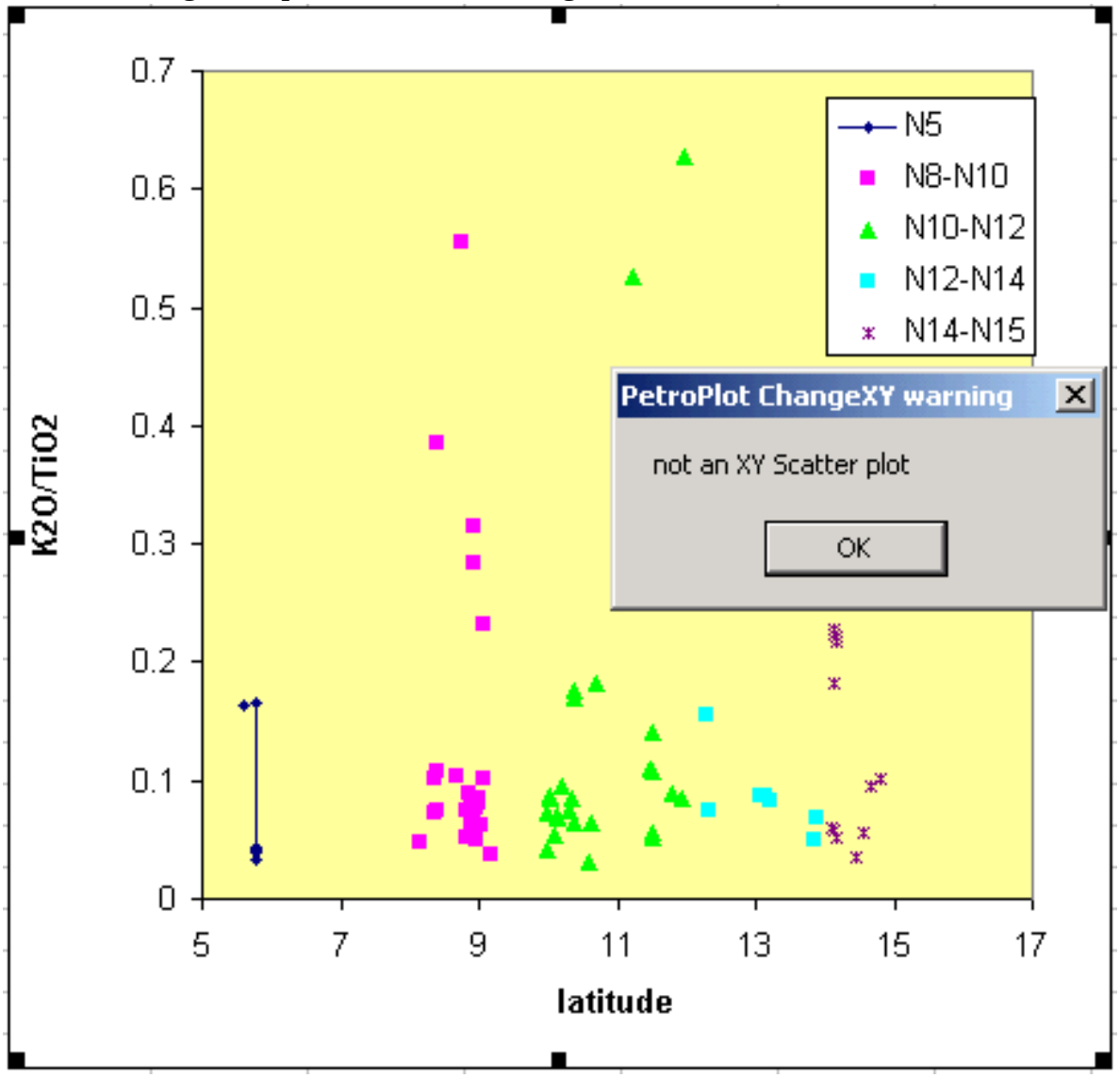
This line marks the end of **PetroPlot known problems: Empty cells when using "Multi-XY Plots"**

# PetroPlot Known Problems

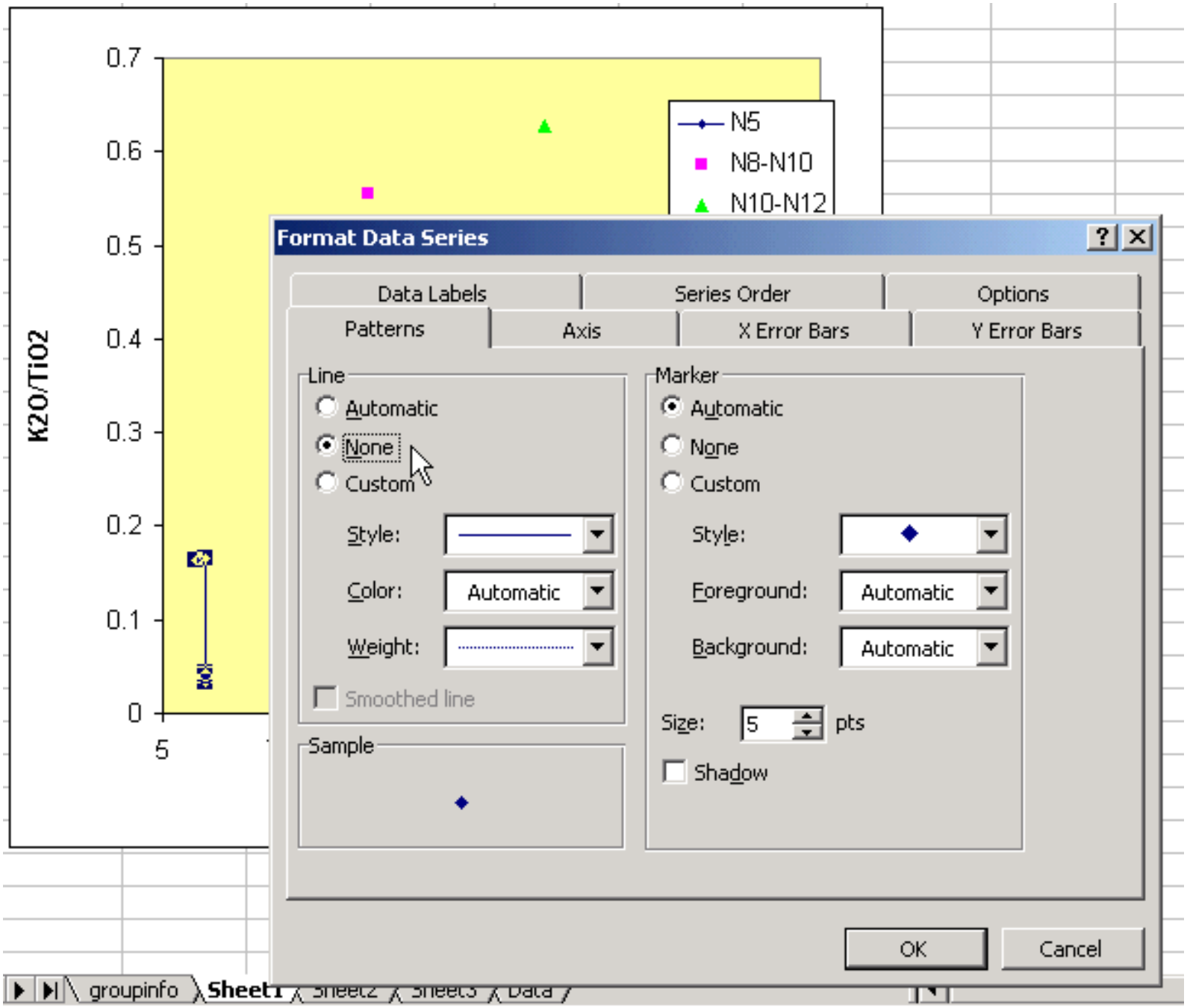
# Chart type is not XY Scatter

**Problem:**
If you add lines to connect points on an XY chart, then the chart is not treated as XY Scatter any more.

The following example tries to run ChangeXY function.




**Solution:**
You need to re-format the series to get rid of the lines.




*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot known problems: Chart type is not XY Scatter**

# PetroPlot Known Problems

# A chart contains data from multiple files or sheets

**Problem:**
If an XY chart contains data from multiple files or sheets, PetroPlot ChangeXY or Add Data Label functions will not work for those series.

PetroPlot only changes series with data from the current workbook. All series need to come from the SAME SHEET.

**Solution:**
Keep all data for an XY Chart in a single worksheet.

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This line marks the end of **PetroPlot known problems: A chart contains data from multiple files or sheets**

# PetroPlot Conventions

The following rules can help users to work more efficiently with PetroPlot functions.

1. A data sheet should be organized with rows corresponding to sample/analysis and columns representing categories (location, element, element ratio, etc). The first row should contain only header information (i.e. element names etc).

2. All sheet-mode functions except “Compile Rows” work on selected areas in the data sheet. In general, whole sheet, whole column or whole row selections should be avoided. The program works most efficiently if only the cells with data to be worked on are selected.

3. For “Multi XY Plots”, it is recommended that Series Names are stored in Column A, and Series Numbers are stored in Column B, as shown in the PetroPlotExampleData.xls file.

4. To use PetroPlot “ChangeXY” function, data sources for all series in one chart must come from a single worksheet. Series with data from other files will NOT be updated to the new axes.

5. “Spider Diagram” function requires that "PetroPlotSpider.xls" is open.

6. Sample names should include a text string, and not be only numbers.

7. For the “Grouping” function, at least one group info sheet is needed (e.g. the groupinfo sheet in PetroPlotExampleData.xls) . There are no naming restrictions for group info sheets. A “-1” sign should be put in Column A after the last grouping record. No “-1” is needed in the header row.

8. To use the “Compile Rows” function, users should pre-sort the data sheet based on analytical quality. Make sure that better data appear first for a single sample.

If you think more or less rules should be listed here, please contact me.

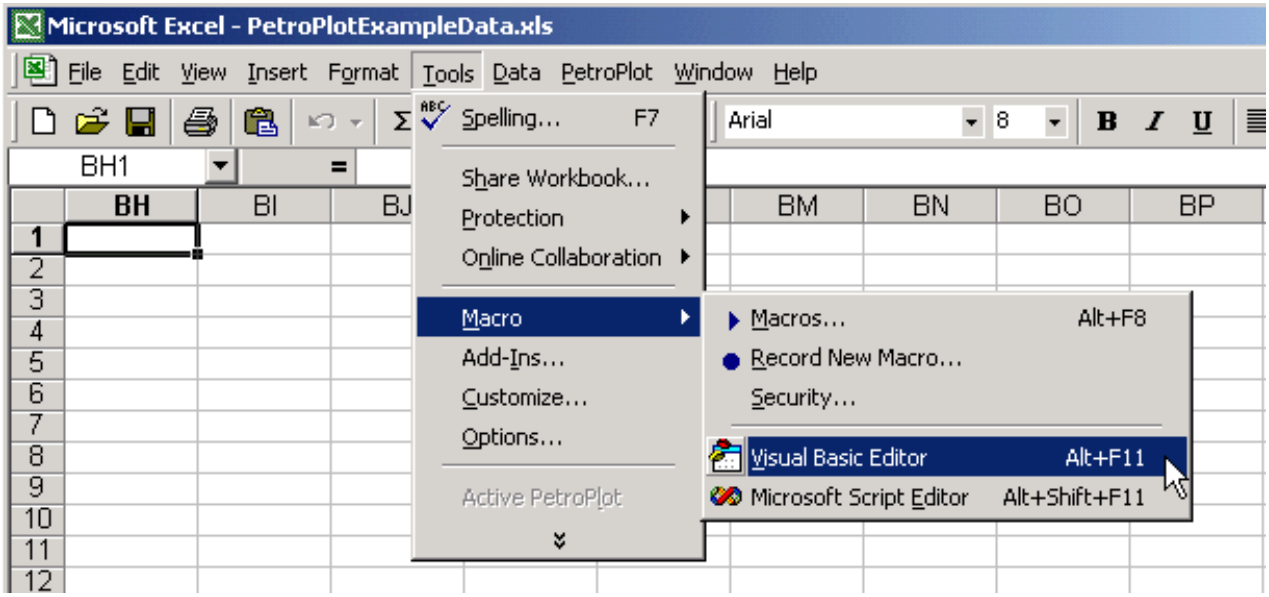
*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Conventions**

# PetroPlot Tutorial

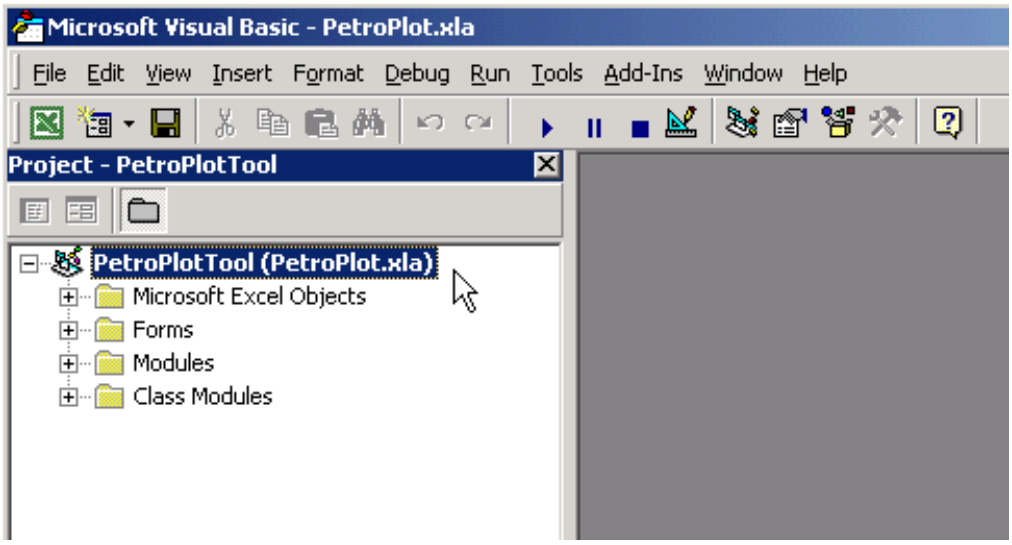
# Using Visual Basic Editor

**Activate Visual Basic Editor:**

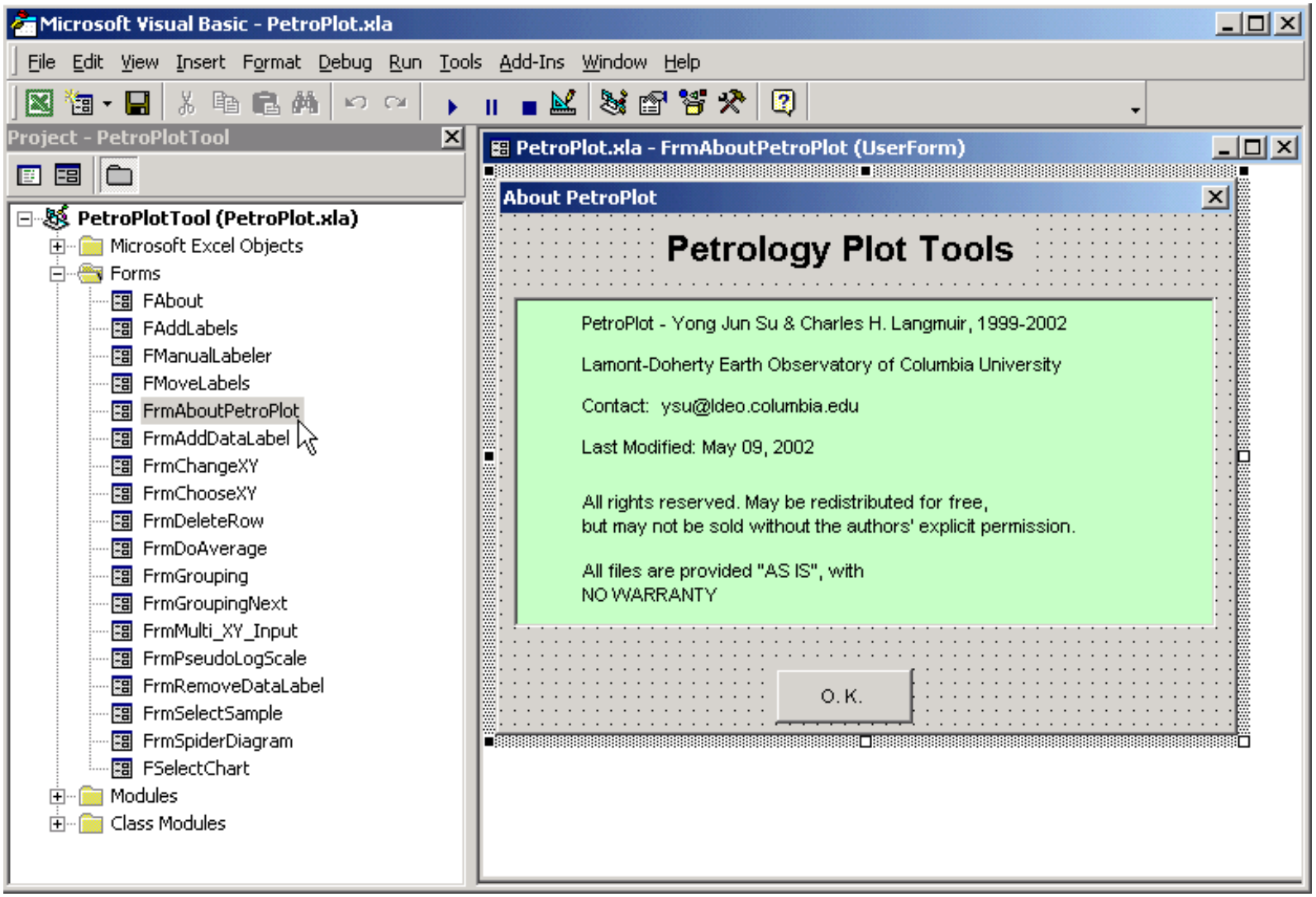
Click Tools --> Macro --> Visual Basic Editor



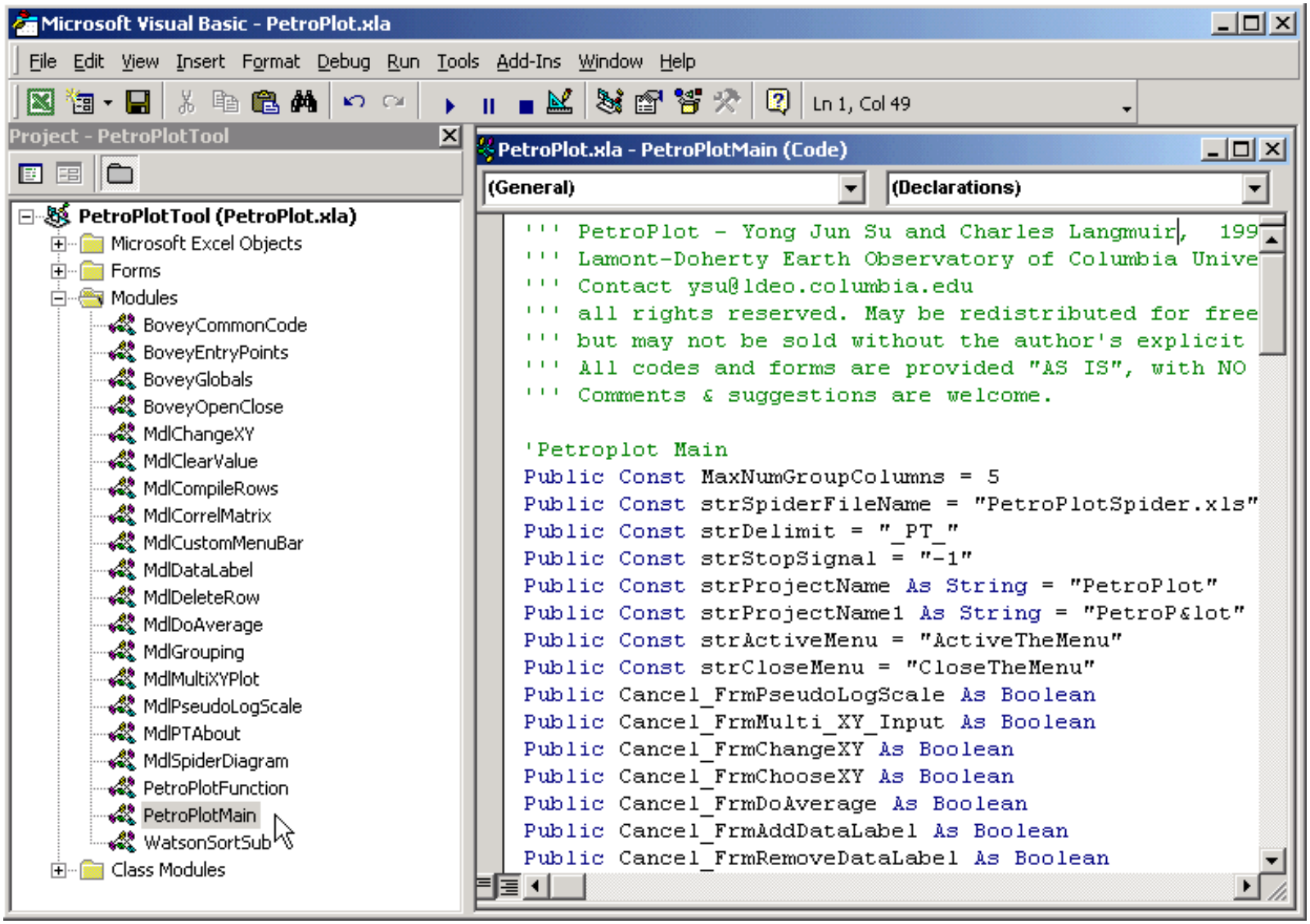

**Locate the PetroPlot.xla in Project Explorer:**




**PetroPlot forms:**




**PetroPlot Modules:**




You can contact me for more information.

*Last modified 05/30/2002, Yong Jun Su*
This line marks the end of **PetroPlot Tutorial: Using Visual Basic Editor**